# NePort™ Series User Manual

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Related Documentation

| Manual | Description |
|---|---|
| **CONEXTOP NEPORT User Manual** | The manual provides a description of management functions of NEPORT series products. |
| CONEXTOP NEPORT AT Commands | The manual provides a description of all the AT commands of NEPORT series product. |
| | |

## Content

Introduce the functions and configuration to readers.

## readers

- NEPORT product engineers
- Users who are familiar with network

## Symbols

Caution, means reader be careful. Improper operation may cause data loss or damage to equipment.

Inhibition, means you must to do that.

Note, means a complementary description.

## Abbreviation

| Abbreviation | Description |
|---|---|
| IP | Internet protocol |
| TCP | Transmission Control Protocol |
| UDP | User Datagram Protocol |
| NTP | Network time protocol |
| DNS | Domain Name System |
| SMTP | Simple mail transfer protocol |
| UART | |
| DHCP | Dynamic Host Configuration Protocol |
| BOOTP | BOOTstrap Protocol |

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# Chapter 1 Introduction

## 1.1 System Overview

Conextop Technologies target at providing the most reliable and security M2M solution for the worldwide customers, and NePort is the most compact serial-IP module released in 2002, which has embedded all in a standard RJ45 connector, Neport is powered by our network processor SoC(Nechip), which includes a 10/100 MAC/PHY and 256 KB of SRAM on chip. It features a built-in web server for communications with a device via a standard Internet browser. Web capability can be used for remote configuration, real-time monitoring or troubleshooting. Neport has 512 KB of on-chip Flash for web pages and software upgrades. It acts as a dedicated co-processor that optimizes network activities permitting the host microprocessor to function at maximum efficiency.

NePort series of Industrial Device Servers are a robust, feature-rich, high reliability, high-performance and cost effective way to network-enable equipment in an industrial automation environment. In accordance with the needs of users, NEPORT series can provide one or more serial ports, provide a cost-effective program for users to connect the RS232/RS422/RS485 serial equipment to network.

NePort series integrates internal TCP / IP protocol stack to provide a complete network access and data transmission functions. And can provide a wide range of access means, including ETHERNET, PPP, PPPoE, GPRS, and users can choose one or more access methods according to actual demand.

NePort Series provides users with a wealth of features and applications. in order to facilitate the using, provides convenient configuration including serial, HTTP, TELNET and other, the user can choose different ways to configure. And in order to facilitate the management of equipment, NEPORT Series also provides windows applications to manage multiple devices on the network through its centralized management and configuration functions.

In order to compatible with traditional serial applications, NePort Series also provides users with the virtual serial port, so users do not need to modify existing applications to control the physical serial port through network.

# 1.2 Features and Specifications

## 1.2.1 Product Features

The NEPORT Series products have the following features：

- Easy to connect to the Internet network
- Serial transmission speed up to 921600bps
- Supports 10/100 Mbps Ethernet—auto-detectable
- Supports access to Internet network by PPP
- Supports access to Internet network by PPPoE
- Supports access to Internet network by GPRS
- Supports RS-232/422/485 interface
- Supports UDP Unicast/Multicast、TCP SERVER、TCP CLIENT working mode
- Supports a wide range of configuration, including WEB, TELNET, and serial port
- Supports virtual serial ports on Windows
- Supports SNMP protocol and MIBII for network management
- Supports SMTP protocol for email alerting
- Supports TFTP and FTP protocol for web and firmware upgrading

## 1.2.2 Product Specifications

LAN

- Type：10M/100Mbps
- Interface：RJ45

Serial Interface

- protocols：RS232/RS422/RS485
- Baud：110bps-460800bps
- Data bits：5，6，7，8
- Stop bits：1、1.5、2
- Parity：None, Even, Odd, Space, Mark
- Flow control：node, software, hardware

GSM/GPRS

- Dual-Band GSM 900/1800 MHz, compliant to GSM phase 2/2+
- Output power: Class 4 (2W)/(EGSM900), Class 1(1W)/(GSM1800)
- GPRS multi-slot class 10
- Mobile station class B

Protocols

- ICMP、IP、TCP、UDP、DHCP、 BOOTP、TELNET
- DNS、SNMP、HTTP、SMTP、SNTP、ARP

- PPP、PAP、CHAP、LCP、IPCP
- PPPOE、FTP、TFTP
- SSH、SSL、TLS、HTTPS、SMTPS

File System

- FAT12/16/32

Others

- dimension：
- power input: 3.3VDC, +/-5%;4.2VDC,+/-5%
- power consumption: 250mA
- Operation temperature: 0°C to +70°C (32°F to 158°F)，5% to 95% RH
- Store temperature: -20°C to +85°C (-4°F to 185°F)，5% to 95% RH

## 1.3 Package Checklist

| | |
|---|---|
| NEPORT serial device server | 1 |
| User manual | 1（CD） |
| Serial Cable | 1 |
| Power supply | 1 |

# Chapter 2 Getting Started

## 2.1 Hardware connection and install

Please refer to <<NePort Hardware Description>>

## 2.2 User Interface

The device's configuration is stored in nonvolatile memory and is retained without power. You can change the configuration at any time. The unit performs a reset after you change and store the configuration.

In order to improve the flexibility and convenience, NEPORT series of products provides a wide range of configuration tools for the user to choose, including: serial login configuration, WEB configuration, TELNET configuration, device manager configuration.

### 2.2.1 Local configuration via serial port

Connect serial port to NEPORT to build the local environment:

1, connect the computer serial port with NEPORT through a standard serial cable.

2, open the terminal simulation program in the computer, such as HyperTerm (HyperTerminal) on Windows system or Minicom on Linux system, to establish a new connection, select the actual serial port to use, and set the serial parameters as follows(take HyperTerm as a example):

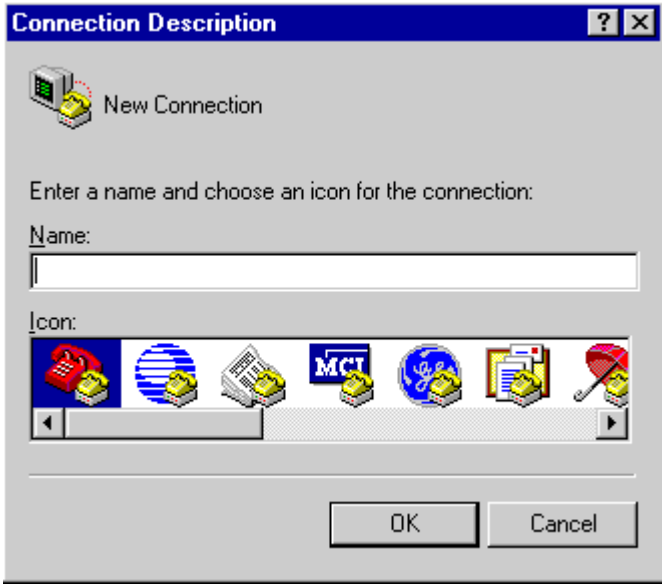



Figure 2-1 new connection of COM

Figure 2-2 select port

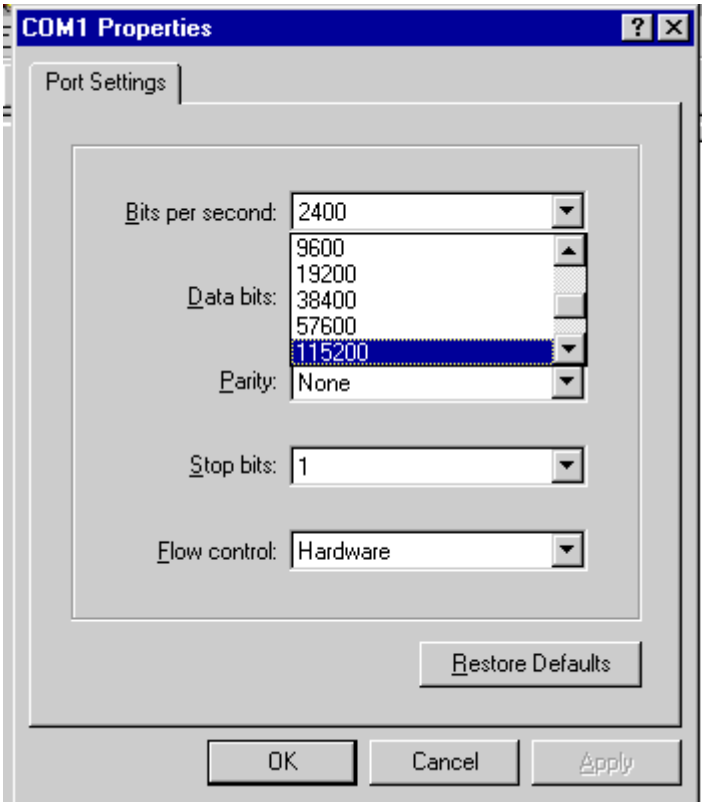



Figure 2-3 port settings

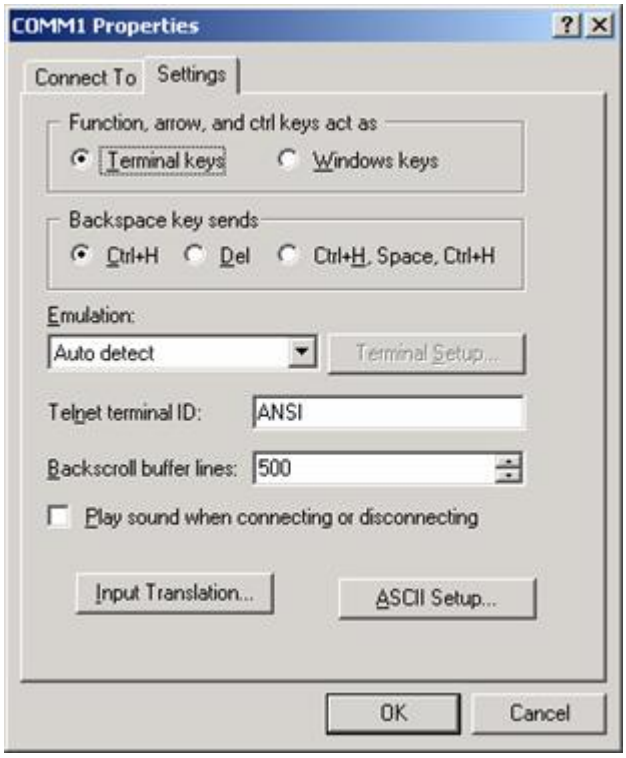



Figure 2-4 terminal type settings

3、When the devices rebooted, input in the terminal with 3 "+" (in intervals of not more than 1s), can enter the device configuration mode.

## 2.2.2 Remote configuration via network

## 2.2.2.1 Configure IP address of local PC

To configure TCP/IP manually:

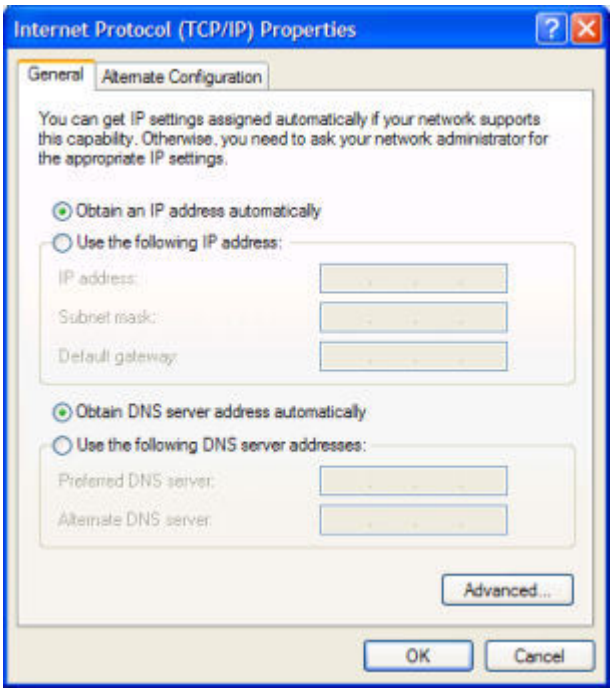
1、In Control Panel, open Network and Dial-up Connections .

2、Right-click the local area connection you want to modify.

3、Select Properties .

4、In the General dialog box, select Internet Protocol (TCP/IP) .

5、Click Properties .


Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

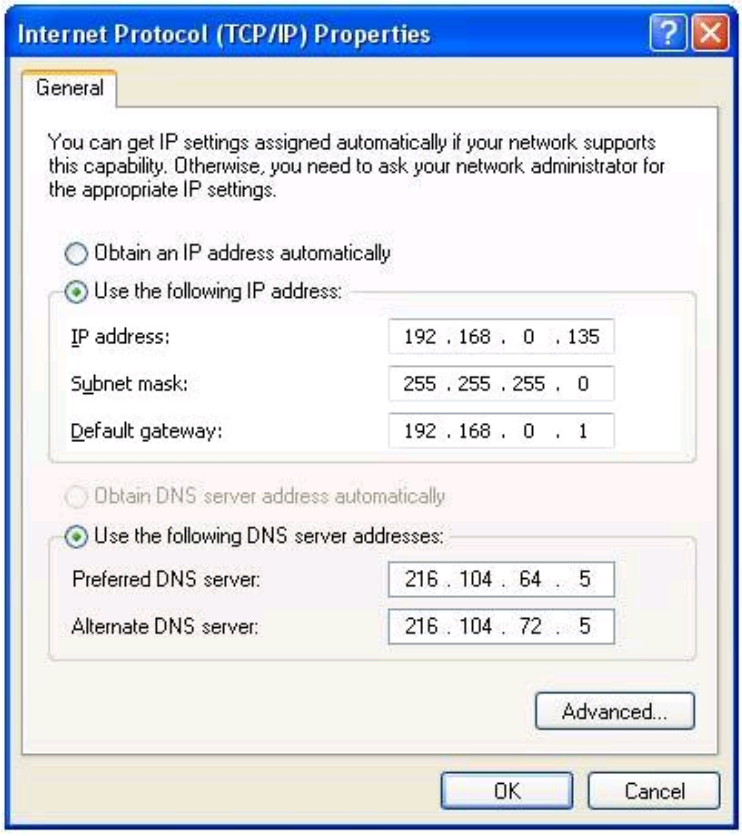
6、In the General dialog box, select the Use the following IP address option.

7、Type the IP address, subnet mask, and default gateway in the respective boxes.

The network administrator must provide these values for individual users, based on the IP addressing plan for your site.

The value in the IP Address box identifies the IP address for the interface.

The value in the Subnet Mask box is used to identify the network ID for the selected network adapter.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 135
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 0 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 216 . 104 . 64 . 5
Alternate DNS server: 216 . 104 . 72 . 5
Advanced...
OK
Cancel

8、Click OK to save the IP addressing information.

9、Click OK to save the connection properties.

To configure a multihomed system using a single network adapter:

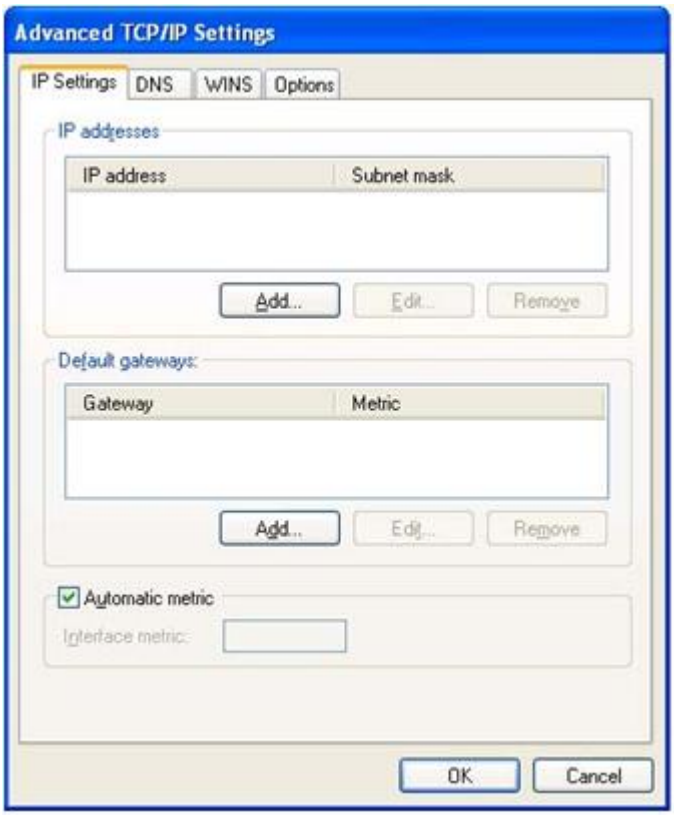
1、In Control Panel, double-click Network and Dial-up Connections .

2、Right-click the local area connection you want to modify, and then select Properties .

3、Add TCP/IP configuration information for the first IP address, as described in Configure IP Address Manually.

4、Click Advanced .

5、Click Add to enter the IP address and subnet mask for each additional subnet.




## 2.2.2.2 Configuration via WEB

With integrated WEB server, users can easily access to the NEPORT Series product.

1、Open your browser and type the IP address in address input box and press Enter;

2、when connected successful, You may be prompted for your user name and password. Be sure to enter your new password.

3、If the user name and password is correct, the main page of device will be opened. The left part of main page is the index column; the right part is the overview information about the system.

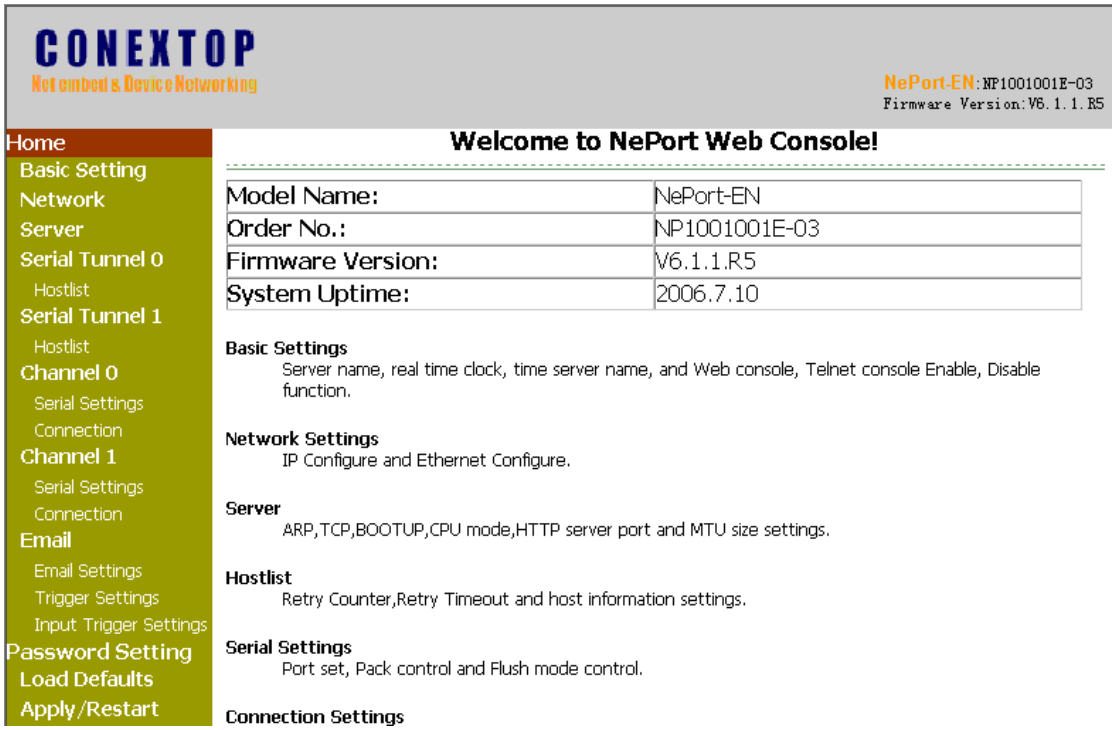



Figure 2-5 HTTP main menu

## 2.2.2.3 Configuration via TELNET

With integrated TELNET server, NEPORT series product supports multi-user login at the same time, and supports a wide range of TELNET client, you can use command line tools as TELNET client under the Windows and Linux. In the following we use Windows as an example to show the detailed operation of TELNET command line tools.

1、Open "Run" under the "Start" menu, type "cmd" to start command-line tool .

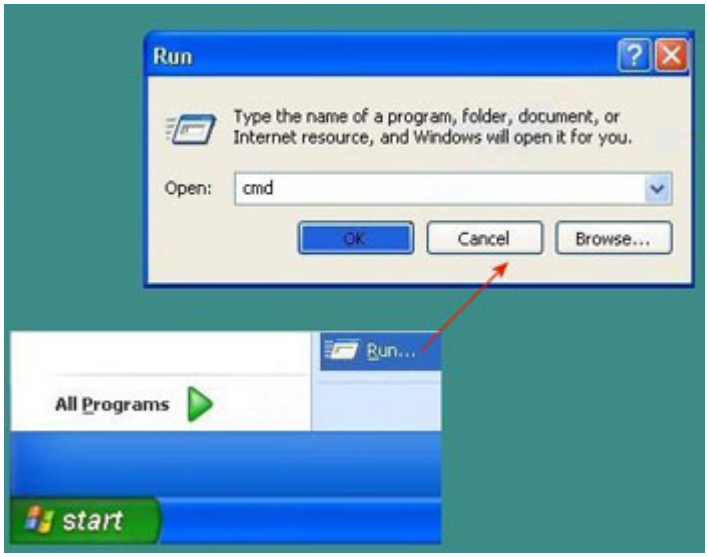



Figure 2-6 run the cmd tool

2、Under the command line type "telnet dd.dd.dd.dd" and enter, in which "dd.dd.dd.dd" refers to the device address to login, the device address is "192.168.0.251" below.

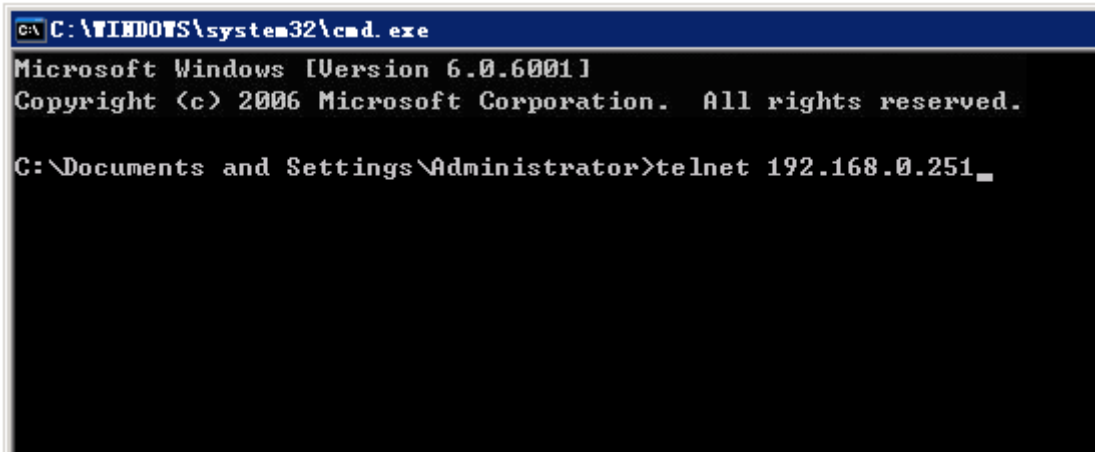

C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Documents and Settings\Administrator>telnet 192.168.0.251

Figure 2-7 TELNET connect to server

3、After that, please according to the screen prompt to enter a user name and password to complete the login.

Figure 2-8 TELNET login page

4、When authenticate success, the main menu will show as follows:

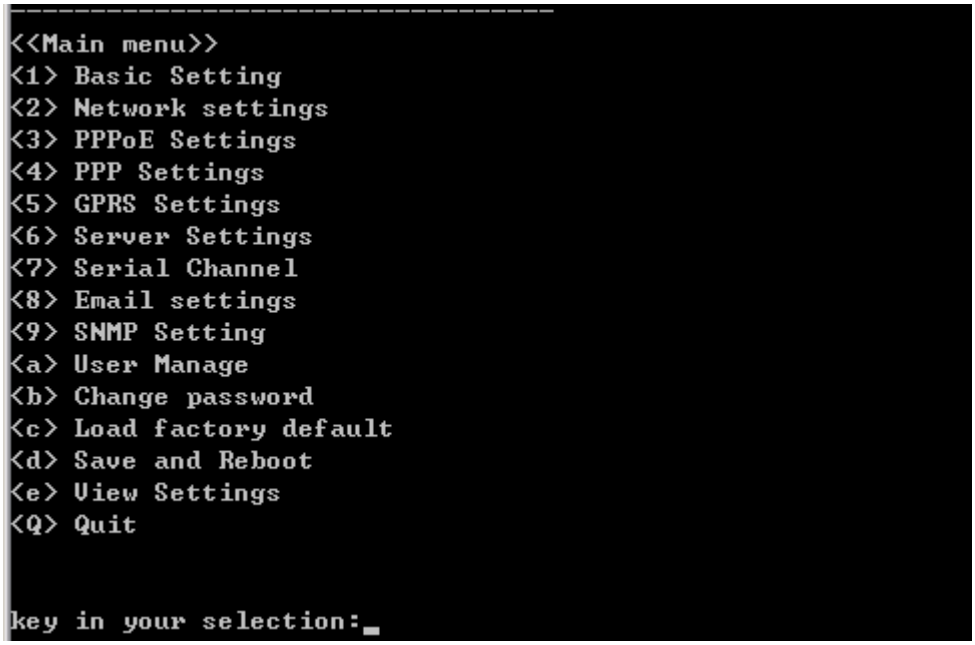



Figure 2-9 TELNET main menu

## 2.2.2.4 Configuration via Device manager

NEPORT series products support PC client management software “DeviceManagement” to manage and configure devices.

1, according to the products installation files of “DeviceManagement” that found in the accompanying software package and begin software installation.

2, after the success of the software installation, there is a shortcut will be generated on the desktop, through the shortcut or through the "Start" menu to find DeviceManagement menu items, you can open DeviceManagement software interface as follows:

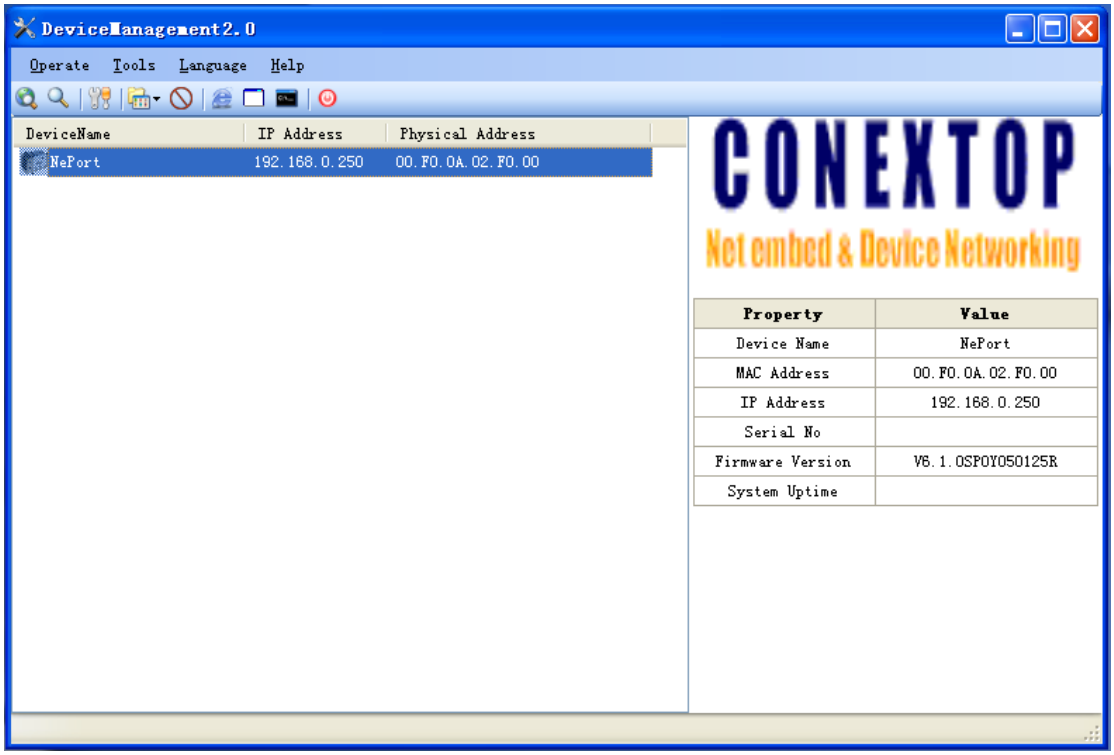



Figure 2-10 Device Manager

# Chapter 3 Parameters

NEPORT series products with rich functions in actual use, the user needs to configure it as needed, select the required function, cancel the function does not required. NEPORT Series products have a variety of means of configuration, In order to know the content of configuration, in the following chapter, the parameters of the equipment will be introduced one by one.

Note:

Configuration tool Introduced in the follow-up such as WEB, TELNET, have the same sub-sections of this chapter.

## 3.1 Basic Settings

| parameter | contents |
|---|---|
| Server Name | The name of device server<br>Option value: any string length less than 14 bytes.<br>Default value: NULL<br>Notes: it will not change when load factory setting. |
| Time | Set the current time of device：<br>Time Zone：<br>User selectable time zone.<br>Local Time：<br>System time.<br>Time Server：<br>Server name used to synchronize the time. |
| Web Console | Enable or disable web service. |
| Telnet Console | Enable or disable telnet service. |
| Terminal Type | Some of the old terminal may be required before the connection is established in the terminal type of transmission. You may need to refer to the documentation to determine the appropriate type. In most applications of modern terminals, this is not a necessity, can not serve any purpose.<br>Suggested default value:VT100. |

Table 3-1 basic setting parameters

Caution:

As the two remote access methods, if the HTTP and TELNET are disabled, the device can not be accessed by network.

# 3.2 Network

## 3.2.1 Automatic IP address configuration

| parameter | contents |
|---|---|
| BOOTP | Whether or not to allow BOOTP to obtain IP address. |
| DHCP | Whether or not to allow DHCP to obtain IP address. |
| AutoIP | Whether or not to allow AutoIP to obtain IP address. |
| DHCP Host Name | DHCP server host name. |

Table 3-2 Automatic IP address configuration

Note:

DHCP protocol is developed based on the BOOTP protocol and is compatible with BOOTP protocol, if is not clear, the best choice is DHCP, because BOOTP protocol protocol can not be compatible with DHCP.

## 3.2.2 Static IP address configuration

| parameter | contents |
|---|---|
| IP Address | Static ip address of device. |
| Subnet | Ip address network mask |
| Default Gateway | Gateway of network. |
| Preferred DNS server | The 1st DNS server to use when query. |
| Alternate DNS server | The second DNS server to use when query. |

Table 3-3 static IP address

Inhibition:

If you choose to use manually configure IP addresses, IP address can not the same as the others in the same network, otherwise it will leading to unpredictable consequences.

### 3.2.3 Ethernet configuration

| parameter | contents |
|---|---|
| Auto Negotiate | Auto-negotiation is selected, the device will auto-negotiate with the network node of the network; uncheck it will using the designated mode.<br>Option values: Enable/Disable<br>Default value: Enable |
| Speed | Netcard working speed.<br>Option values(bps): 10M/100M.<br>Default value: 10M |
| Duplex | Netcard working mode.<br>Option values: Full or Half.<br>Default value: Full |
| MAC Address | Mac address of netcard.<br>Option value: valid mac address in “xx.xx.xx.xx.xx.xx” format.<br>Default value: None. |

Table 3-4 ethernet configuration

Inhibition:

In the LAN, MAC address are used to distinguish between the various devices or PC, MAC address of device can not be the same with any other device or PC machine in the network.

### 3.2.4 Network Type

| parameter | contents |
|---|---|
| Ethernet | Whether or not to enable ethernet |
| PPP | Whether or not to enable PPP dialup network |
| PPPoE | Whether or not to enable PPPoE dial-up network |
| GPRS | Whether or not to enable GPRS |

Table 3-5 network type

# 3.3 PPPoE

## 3.3.1 PPPoE

| parameter | contents |
|---|---|
| User Name | User name of dial-up account<br>Option value: any string of length less than 31 bytes.<br>Default value: “admin” |
| Password | Password of dial-up account.<br>Option value: any string of length less than 21 bytes.<br>Default value: “admin” |
| Work Mode | Work mode of dial-up.<br>Option value:<br>Disable：<br>Disable the PPPoE dial-up function, the device can not access network through PPPoE.<br>Auto Dial:<br>In such mode, the device will try to keep the dial-up connection. Once the connection is disconnect, it will try to connect again until connect success.<br>Dial on Demand:<br>When the device have to send data to network, but dial-up connection is disconnected, it will dial up to connect. Should use in cooperate with Idle Time.<br>Adaptive:<br>The device will use PPPoE dial-up connection or LAN to transmit data automatically.<br>Default value: Disable. |
| Max Redial Times | Times of redial when failed to login, Only valid in Dial on Demand mode.<br>Option value: 0-255<br>Default value: 0 |
| Redial Interval | Interval time of redial when failed to login.<br>Option value: 0-255<br>Default value: 0 |
| Idle Time | When the dial-up connection is idle after idle time, it will be compelled to disconnect.<br>Option value(secs): 0-65535<br>Default value: 0 |

Table 3-6 PPPoE dial-up settings

### 3.3.2 PPPoE Status

PPPoE status parameters are read-only, to display status of PPPoE dial-up connection.

| parameter | contents |
|---|---|
| Link Status | Status of dial-up connection.<br>Option value: deactive/linking/active.<br>Default value: deactive. |
| PPPoE IP | IP address of dial-up connection. |
| PPPoE Gateway | Gateway of dial-up connection. |
| PPPoE DNS1 | Preferred DNS address of dial-up connection. |
| PPPoE DNS2 | Alternative DNS address of dial-up connection. |

Table 3-7 PPPoE state

## 3.4 PPP

### 3.4.1 PPP

| parameter | contents |
|---|---|
| User Name | User name of dial-up account<br>Option value: any string of length less than 31 bytes.<br>Default value: “admin” |
| Password | Password of dial-up account.<br>Option value: any string of length less than 21 bytes.<br>Default value: “admin” |
| Work Mode | Work mode of dial-up.<br>Option value:<br>Disable：<br>Disable the PPP dial-up function, the device can not access network through PPP.<br>Auto Dial:<br>In such mode, the device will try to keep the dial-up connection. Once the connection is disconnect, it will try to connect again until connect success.<br>Dial on Demand:<br>When the device has to send data to network, but dial-up connection is disconnected, it will dial up to connect. Should use in cooperate with Idle Time.<br>Adaptive:<br>The device will use PPP dial-up connection or LAN to transmit data automatically.<br>Default value: Disable. |

| | |
|---|---|
| Max Redial Times | Times of redial when failed to login, Only valid in Dial on Demand mode.<br>Option value: 0-255<br>Default value: 0 |
| Redial Interval | Interval time of redial when failed to login.<br>Option value: 0-255<br>Default value: 0 |
| Idle Time | When the dial-up connection is idle after idle time, it will be compelled to disconnect.<br>Option value(secs): 0-65535<br>Default value: 0 |
| COM | Which serial port is used for dial-up.<br>Option value: vary according to firmware.<br>Default value: vary according to firmware. |

Table 3-8 PPP dial-up

### 3.4.2 PPP Status

PPPoE status parameters are read-only, to display status of PPPoE dial-up connection.

| parameter | contents |
|---|---|
| Link Status | Status of dial-up connection.<br>Option value: deactive/linking/active.<br>Default value: deactive. |
| PPP IP | IP address of dial-up connection. |
| PPP Gateway | Gateway of dial-up connection. |
| PPP DNS1 | Preferred DNS address of dial-up connection. |
| PPP DNS2 | Alternative DNS address of dial-up connection. |

Table 3-9 PPP status

## 3.5 GPRS

### 3.5.1 MSC Settings

| parameter | contents |
|---|---|
| Access Point Name | The name used to identify a general packet radio service (GPRS) bearer service in the GSM mobile network. The APN defines the type of service that is provided in the packet data connection.<br>Option values: Any string provided by mobile operator.<br>Default value: CMNET |
| Service Code | Dial string.<br>Option values: any string provided by mobile operator. |

| | |
|---|---|
| | Default value: *99***1# |
| SIM/UIM PIN | SIM PIN1<br>Option values: any string provided by mobile operator.<br>Default value: NULL |

Table 3-10 GPRS mobile services center

## 3.5.2 PPP

| parameter | contents |
|---|---|
| User Name | User name of dial-up account<br>Option value: any string of length less than 31 bytes.<br>Default value: “admin” |
| Password | Password of dial-up account.<br>Option value: any string of length less than 21 bytes.<br>Default value: “admin” |
| Work Mode | Work mode of dial-up.<br>Option value:<br>Disable：<br>disable the PPP dial-up function, the device can not access network through PPP.<br>Auto Dial:<br>In such mode, the device will try to keep the dial-up connection. Once the connection is disconnect, it will try to connect again until connect success.<br>Dial on Demand:<br>When the device has to send data to network, but dial-up connection is disconnected, it will dial up to connect. Should use in cooperate with Idle Time.<br>Adaptive:<br>The device will use PPP dial-up connection or LAN to transmit data automatically.<br>Default value: Disable. |
| Max Redial Times | Times of redial when failed to login, Only valid in Dial on Demand mode.<br>Option value: 0-255<br>Default value: 0 |
| Redial Interval | Interval time of redial when failed to login.<br>Option value: 0-255<br>Default value: 0 |
| Idle Time | When the dial-up connection is idle after idle time, it will be compelled to disconnect.<br>Option value(secs): 0-65535<br>Default value: 0 |

| | |
|---|---|
| COM | Which serial port is used for dial-up.<br>Option value: vary according to firmware.<br>Default value: vary according to firmware. |

Table 3-11 GPRS PPP dial-up

### 3.5.3 PPP Status

PPPoE status parameters are read-only, to display status of PPPoE dial-up connection.

| parameter | contents |
|---|---|
| Link Status | Status of dial-up connection.<br>Option value: deactive/linking/active.<br>Default value: deactive. |
| PPP IP | IP address of dial-up connection. |
| PPP Gateway | Gateway of dial-up connection. |
| PPP DNS1 | Preferred DNS address of dial-up connection. |
| PPP DNS2 | Alternative DNS address of dial-up connection. |

Table 3-12 GPRS PPP status

## 3.6 Server Settings

| parameter | contents |
|---|---|
| ARP cache Timeout(secs) | Timeout time of ARP entry. When timeout, the system will renew the ARP entry, if fail, the entry will be deleted.<br>Alternative values(secs): 0-255.<br>Default value: 255 |
| CPU Performance Mode | CPU running mode.<br>Alternative values: High/Normal.<br>Default value: Normal.<br>Note: if in high speed mode, it will cost more power and more faster. |
| HTTP Server Port | Web server's service port.<br>Alternative values: 1-65535.<br>Default value: 80 |
| MTU Size | The size of maximum transmit unit in bytes.<br>Can not be modified. |

Table 3-13 server settings

# 3.7 Hostlist

## 3.7.1 Retry Settings

| parameter | contents |
|---|---|
| Retry Counter | The re-connect times when the device connects the remote host fails.<br>When the number of retries reached but the device still unable to connect to the remote host, it will select other address in the host list to connect; the above process will be repeated until a successful connection to a host in the list of hosts.<br>It's value must be within 0 to 255, 0 means no retry. |
| Retry Timeout | If the device connect the remote host fails, the timeout to re-trying to connect.<br>Retry timeout when still can not connect to reach the remote host, the module will select the host list of other addresses to connect to remote host; the above process will be repeated until a successful connection to a host in the list of hosts. |

Table 3-14 retry settings

Note:

When reach retry counter or retry timeout, the device will give up retry the same host and try another host.

## 3.7.2 Host Information

| parameter | contents |
|---|---|
| Host Address | Host's IP address. |
| Port | Host's port number. |
| Backup link | Whether or not to support a backup link. If enabled, the device will establish 2 connections and transmit data on both. Otherwise, only one connection can be established in a time. |

Table 3-15 remote host information

# 3.8 Serial Settings

## 3.8.1 Enable Serial Port

| parameter | contents |
|---|---|
| Enable Serial Port | Whether or not enable serial port<br>Option value: Enable/Disable<br>Default value: Enable |

Table 3-16 enable serial port

Caution:

When the serial port is disabled, then it can not be used to send and receive data, also can not use the AT commands and serial login capabilities via it.

## 3.8.2 Port Settings

| parameter | contents |
|---|---|
| Protocol | Protocol used in serial port communication.<br>Option values: RS232/RS422/RS485.<br>Default value: RS232. |
| FIFO | Serial port hardware FIFO length.<br>Option values: 4, 8, 16.<br>Default value: 8 |
| Flow Control | Option values: None/Software/Hardware.<br>Default value: None. |
| Baud Rate | Serial port baud rate.<br>Option values(bps):<br>110/134/150/300/600/1200/1800/2400/4800/7200/9600/14400/19200/38400/57600/115200/230400/460800/921600<br>Default value: 9600 |
| Data Bits | Data bits used in serial communication.<br>Option values(bit):8/7/6/5<br>Default value:9 |
| Parity | Option values: NONE/ODD/EVEN/MARK/SPACE.<br>Default value: NONE. |
| Stop bits | Option values (bit): 0/1.5/2.<br>Default value: 0. |

Table 3-17 serial port settings

Caution:

Configuration at both ends of the serial line must be the same.

### 3.8.3 Pack Control

| parameter | contents |
|---|---|
| Enable Packing | Whether or not to enable packing function. How to packing serial data stream is dependant on the following parameters.<br>Option value: Enable/Disable<br>Default value: Disable |
| Idle Gap Time | Maximum time for inactivity. If there is any data on serial port's receive buffer, they will be packed and sent to network.<br>Option value(ms): 12/11/10<br>Default value: 12 |
| Match 2 Byte Sequence | If enabled, used the two match bytes to indicate the beginning and end of a series of data to be sent as one group. Otherwise, used the first match byte to indicate the end of a series of data to be sent as one group.<br>Option value: Enable/Disable.<br>Default value: Disable. |
| Send Frame Only | After the detection of the byte sequence, indicates whether to send the data frame or the entire buffer.<br>Option value: YES/NO.<br>Default value: YES |
| Match Byte | Used to indicate the beginning and the end of a series of data to be sent as one group.<br>Option value(HEX): 0x00-0xFF<br>Default value: 0x00 |

Table 3-18 serial packing settings

## 3.9 Connection

### 3.9.1 Connection Protocol

| parameter | contents |
|---|---|
| Protocol | Network protocol<br>Option values: TCP/UDP<br>Default value: TCP |

Table 3-19 connection protocol

## 3.9.2 UDP

### 3.9.2.1 Datagram Mode

| parameter | contents |
|---|---|
| Datagram Type | Type of udp datagram.<br>Option values:<br>Uni：unicast type.<br>Multi：multi-cast type.<br>Default value: Uni. |
| Accept Incoming | Whether to accept UDP data from remote host.<br>Option values: YES/NO.<br>Default value: YES |

Table 3-20 UDP datagram mode

### 3.9.2.2 Multi-Cast Configuration

| parameter | contents |
|---|---|
| Local Port | Local port used to communicate with remote. |
| Remote Port | Remote host's port. |
| Net Segment | Remote host's multi-cast address. |

Table 3-21 UDP multi-cast configuration

### 3.9.2.3 Uni-Cast Device Address Table

| parameter | contents |
|---|---|
| Device Address | Remote host's uni-cast address. |
| Port | Remote host's port in uni-cast communication. |
| Local Port | Local port used in uni-cast communication. |

Table 3-22 UDP uni-cast device address table

## 3.9.3 TCP

### 3.9.3.1 Connect Mode

| parameter | contents |
|---|---|
| Worked As | Work mode of TCP. |

| | |
|---|---|
| | Option values:<br>Server：As a server and accept new connection of remote.<br>Client：As a client, connect to remote host initiatively.<br>Both：<br>Default: Server. |

Table 3-23 TCP connection mode

### 3.9.3.2 Active Connection

| parameter | contents |
|---|---|
| Active Connect | When work as a client, when to connect to remote host.<br>Option values:<br>None：Disabled.<br>With Any Character: when receive any character in serial port.<br>With Start Character: when receive a specified character in serial port.<br>Auto Start: auto start when system starts and tries to keep.<br>Default value: None. |
| Start Character | The specified character to trigger initiative connects. The character must in HEX format. |

Table 3-24 TCP active connection

### 3.9.3.3 Connection Configuration

| parameter | contents |
|---|---|
| Local Port | When working as server, it is the listening port;<br>When working as client, it is the local port of connection.<br>Value range: 0-65535<br>Default value:0 |
| Remote Port | The remote host's communication port. |
| Remote Host | The host name or IP address of remote. |
| Connect Response | When a TCP connection is established, the device will send a character 'C' to serial port. When a TCP connection is disconnected, the device will send a character 'D' to serial port.<br>Alternative values:<br>None: disable.<br>ACT: enable.<br>Default value: None. |
| Use Host list | Whether or not to use host list table.<br>Alternative values: YES/NO.<br>Default value: NO. |

Table 3-25 TCP connection configuration

### 3.9.3.4 Disconnect Mode

| parameter | contents |
|---|---|
| On DSR Drop | All TCP connection will be disconnect when serial's DSR pin 's voltage transfer from high to low.<br>Alternative value: Enable/Disable.<br>Default value: Disable.<br>Note: Only work on modem port. |
| Hard Disconnect | The TCP connection will closes even if the remote site does not acknowledge the disconnect request.<br>Option value: Enable/Disable.<br>Default value: Disable. |
| Check EOT(Ctr-D) | Disconnect all connection when receive a character EOT(ctrl+D) on the serial port.<br>Alternative value: Enable/Disable.<br>Default value: Disable; |
| Inactivity Timeout | When the TCP connection is idle (without any data transmission) for a specified time, disconnect the connection automatically. If the specified time is 0, disable this function.<br>Alternative values: 0-255.<br>Default value: 255. |

Table 3-26 TCP disconnect mode

### 3.9.3.5 Flush Input Buffer

| parameter | contents |
|---|---|
| With Active Connect | Whether or not to clear the input buffer of serial port when the device initiative connect to the remote.<br>Option value: Enable/Disable.<br>Default value: Disable. |
| With Passive Connect | Whether or not to clear the input buffer of serial port when a remote host initiative connect to the device.<br>Option value: Enable/Disable.<br>Default value: Disable. |
| At Time of Disconnect | Whether or not to clear the input buffer of serial port when the connection of the device is disconnected.<br>Option value: Enable/Disable.<br>Default value: Disable. |

Table 3-27 flush input buffer of serial port

#### 3.9.3.6 Flush Output Buffer

| parameter | contents |
|---|---|
| With Active Connect | Whether or not to clear the output buffer of serial port when the device initiative connect to the remote.<br>Option value: Enable/Disable.<br>Default value: Disable. |
| With Passive Connect | Whether or not to clear the output buffer of serial port when a remote host initiative connect to the device.<br>Option value: Enable/Disable.<br>Default value: Disable. |
| At Time of Disconnect | Whether or not to clear the output buffer of serial port when the connection of the device is disconnected.<br>Option value: Enable/Disable.<br>Default value: Disable. |

Table 3-28 flush output buffer of serial port

## 3.10 Email Settings

### 3.10.1 Configure Server

| parameter | contents |
|---|---|
| SMTP Domain Name | Domain name or IP address of SMTP server.<br>Option values: any domain name string length less than 31bytes.<br>Default value: NULL |
| SMTP Port | Port of SMTP server.<br>Option values: 1-65535<br>Default value: 25 |
| Email Address | User email address used to send mail.<br>Option values: any email address string length less than 31 bytes.<br>Default value: NULL |
| Username | Name of user account.<br>Option values: any string length less than 31 bytes.<br>Default value: NULL |
| Password | Password of user account.<br>Option values: any string length less than 31 bytes.<br>Default value: NULL |

Table 3-29 email server settings

### 3.10.2 Recipients

| parameter | contents |
|---|---|
| Recipient 1 Email | Enter the email address designated to receive email notifications.<br>Option values: any email address string length less than 31 bytes.<br>Default value: NULL |
| Recipient 2 Email | Enter the email address designated to receive email notifications.<br>Option values: any email address string length less than 31 bytes.<br>Default value: NULL |
| Recipient 3 Email | Enter the email address designated to receive email notifications.<br>Option values: any email address string length less than 31 bytes.<br>Default value: NULL |

Table 3-30 email recipients

## 3.11 Trigger Settings

### 3.11.1 Conditions

| parameter | contents |
|---|---|
| Cold start | Whether or not to send a email when the device is cold start (hardware reset).<br>Option value: Mail On/Mail Off.<br>Default value: Mail Off. |
| Warm start | Whether or not to send a email when the device is warm start (software reset).<br>Option value: Mail On/Mail Off.<br>Default value: Mail Off. |
| Login auth failure | Whether or not to send a email when there is a login authenticate failure.<br>Option value: Mail On/Mail Off.<br>Default value: Mail Off. |
| IP address changed | Whether or not to send a email when the device's IP address is changed.<br>Option value: Mail On/Mail Off.<br>Default value: Mail Off. |
| Password changed | Whether or not to send a email when the device's login |

| | |
|---|---|
| | password is changed.<br>Option value: Mail On/Mail Off.<br>Default value: Mail Off. |
| DCD Changed | Whether or not to send a email when the DCD state of modem port is changed.<br>Option value: Mail On/Mail Off.<br>Default value: Mail Off. |
| DSR Changed | Whether or not to send a email when the DSR state of modem port is changed.<br>Option value: Mail On/Mail Off.<br>Default value: Mail Off. |

Table 3-31 normal email trigger event

### 3.11.2 Message Properties

| parameter | contents |
|---|---|
| Subject | Subject of mail to send.<br>Option values: any string length less than 31 bytes.<br>Default value: NULL |
| Priority | Mail priority.<br>Option values: High/Low/Normal.<br>Default value: Normal. |
| Min.Notification Interval | The minimum time allowed between individual triggers. If a trigger event occurs within the minimum interval since the last trigger, it is ignored.<br>Option value(secs): 0-255<br>Default value: 0 |

Table 3-32 normal email trigger message properties

## 3.12 Input Trigger Settings

### 3.12.1 Serial Trigger

| parameter | contents |
|---|---|
| Enable Serial Input Trigger | Whether or not to enable email trigger of serial port input.<br>Option value: Enable/Disable.<br>Default value: Disable. |
| Channel | The channel number used as a serial input trigger.<br>Option value: according to different version of product.<br>Default value: according to different version of product. |
| Data Size | Continuous characters number used to trigger email.<br>Option value: Two Bytes/Three Bytes. |

| | |
|---|---|
| | Default value: Two Bytes. |
| Match Data | Character used to trigger email.<br>Option value(in hex): 0x00-0xFF<br>Default value: 0x00 |

Table 3-33 serial input trigger

### 3.12.2 Message Properties

| parameter | contents |
|---|---|
| Subject | Subject of mail triggered by serial input data.<br>Option value: any string length less than 31 bytes.<br>Default value: NULL |
| Priority | Priority of mail triggered by serial input data.<br>Option value: High/Normal/Low.<br>Default value: Normal. |
| Min.Notification Interval | The minimum time allowed between individual serial input triggers. If a trigger event occurs within the minimum interval since the last trigger, it is ignored.<br>Option value(secs): 0-255<br>Default value:0 |

Table 3-34 serial input trigger message properties

## 3.13 SNMP

| parameter | contents |
|---|---|
| Disable SNMP | Whether or not disable SNMP.<br>Option value: YES/NO.<br>Default value: YES. |
| Read Community | String used to read SNMP MIB variables.<br>Option values: any string length less than 17bytes.<br>Default value: public |
| Write Community | String used to write SNMP MIB variables.<br>Option values: any string length less than 17bytes.<br>Default value: private |
| Contact Name | Contact name of SNMP MIBII.<br>Option values: any string length less than 31bytes.<br>Default value: NULL |
| Location | Location of SNMP MIBII.<br>Option values: any string length less than 17bytes.<br>Default value: Shenzhen |
| Notification Host | The host IP address of SNMP TRAP message.<br>Option value: any string in IP address format. |

| | |
|---|---|
| | Default value: 0.0.0.0 |

Table 3-35 SNMP

# 3.14 Password Setting

## 3.14.1 Change Password

| parameter | contents |
|---|---|
| Username | User name for web login.<br>Option values: any string length less than 11 bytes.<br>Default value: admin |
| Old Password | Current password for web login, only need when change password..<br>Option values: any string length less than 11 bytes.<br>Default value: admin |
| New Password | New password for web login when change password.<br>Option values: any string length less than 11 bytes.<br>Default value: admin |
| Retry Password | Confirm new password for web login when change password.<br>Option values: any string length less than 11 bytes.<br>Default value: admin |

Table 3-36 change password

Caution:

If the password is lost, then press the default button to restore the factory value of parameters, use the default user name and password "admin" on the login again.

# 3.15 Power manage

| parameter | contents |
|---|---|
| Load defaults | Restore factory settings. |
| Load defaults and reboot | Restore factory settings and reboot. |
| Reboot | Just reboot the device. |
| Save and reboot | Save the parameters and reboot. |

Table 3-37 power manage

# Chapter 4 Web Configuration

Through a Web browser to configure the device is the most intuitive and convenient way. Here recommend the use of the mainstream browser, such as IE or FireFox for a visit.

In the following sections about WEB configuration, if there is no special note, the user need clicks on the "Submit" button of the page to submit data, configuration only take effect after the restart.

Configuration of device have been carried out in accordance with the relevant portfolio, located in different sub-page, please click on the left column of the corresponding sub-index into the configuration menu, the specific configuration items will be explained in the following sections of this chapter, and provide a description page, click the "Help" button next to “submit” on the page to view.

One suggestion was that in the configuration of device, please first finish modify all the configuration, and then click "Apply Settings / Restart" to restart, to improve the efficiency.

Note:

Map page of this chapter are for reference only, there are may be small differences in the content and WEB page in actual products.

## 4.1 Basic Settings

In the main menu click on “Basic Settings” link, basic configuration page will show as follows:

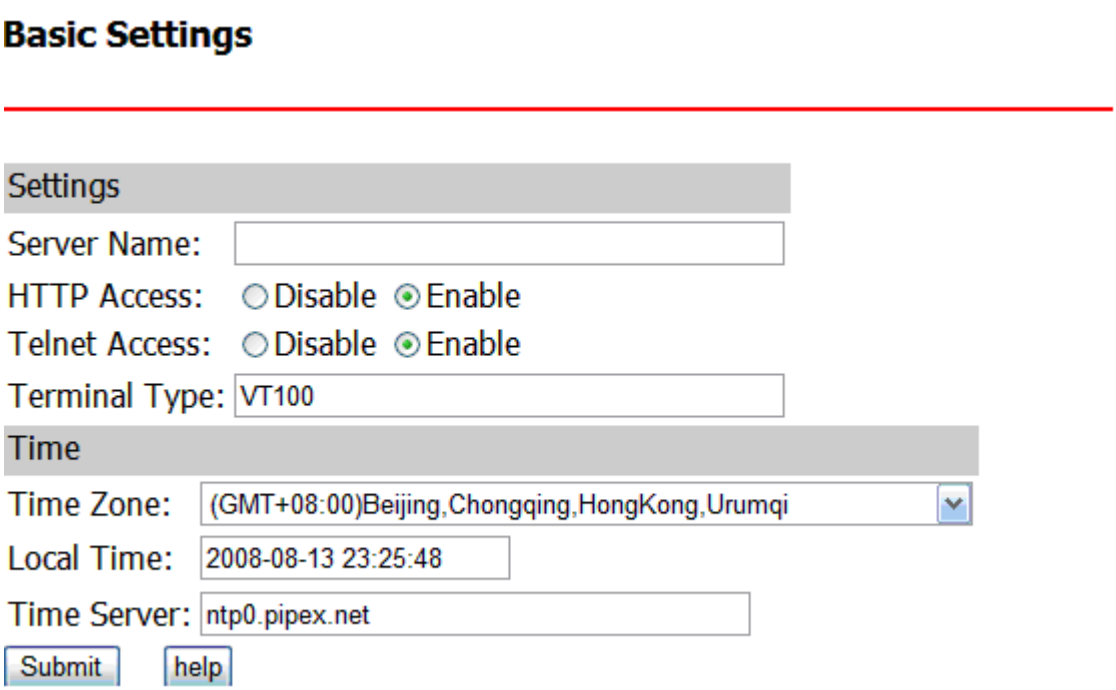



Figure 4-1 HTTP basic settings page

Please refer to section 3.1 to see the description of the parameters.

## 4.2 Network

In the main menu click on “Network” link, network configuration page will show as follows:

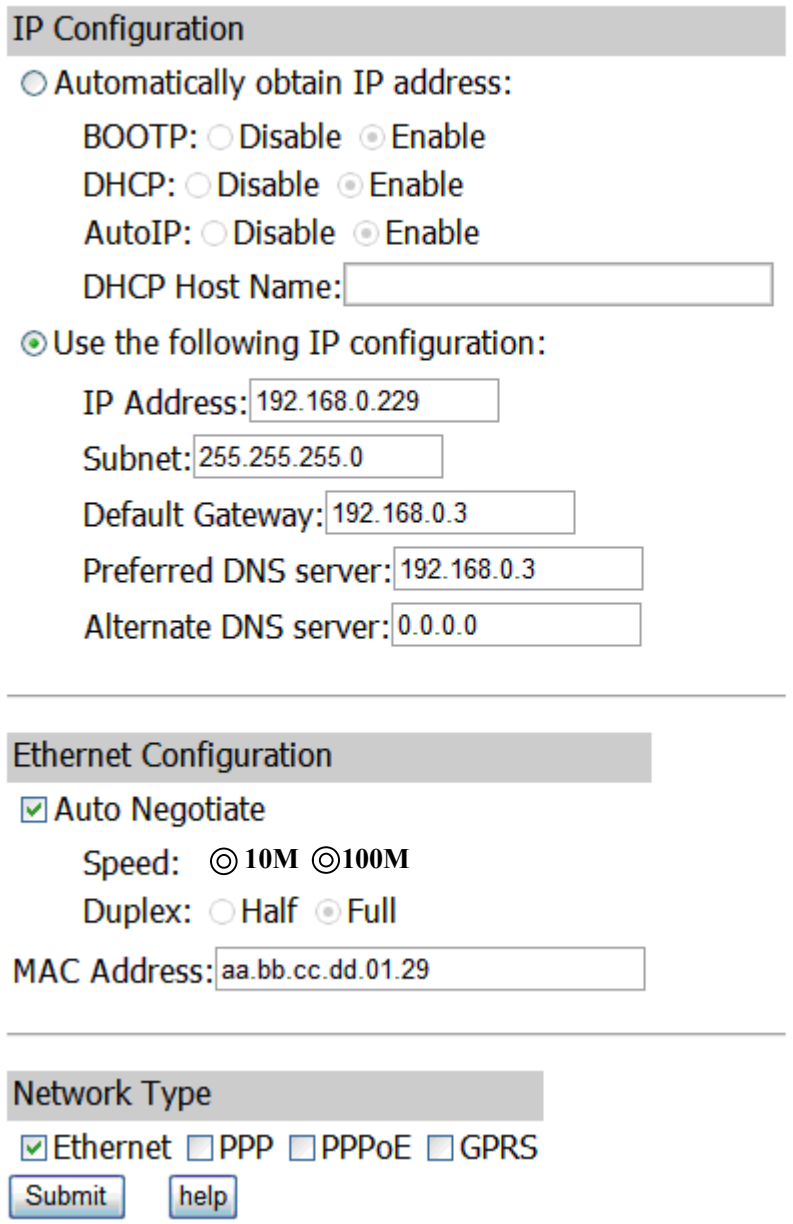



Figure 4-2 HTTP network settings page

There is three parts in this page for configuration: IP configuration, Ethernet Configuration, Network Type. Please refer to the description of the parameters in section3.2, 3.2.3, 3.2.4.

## 4.3 PPPoE

In the main menu click on “PPPoE” link, PPPoE configuration page will show as follows:

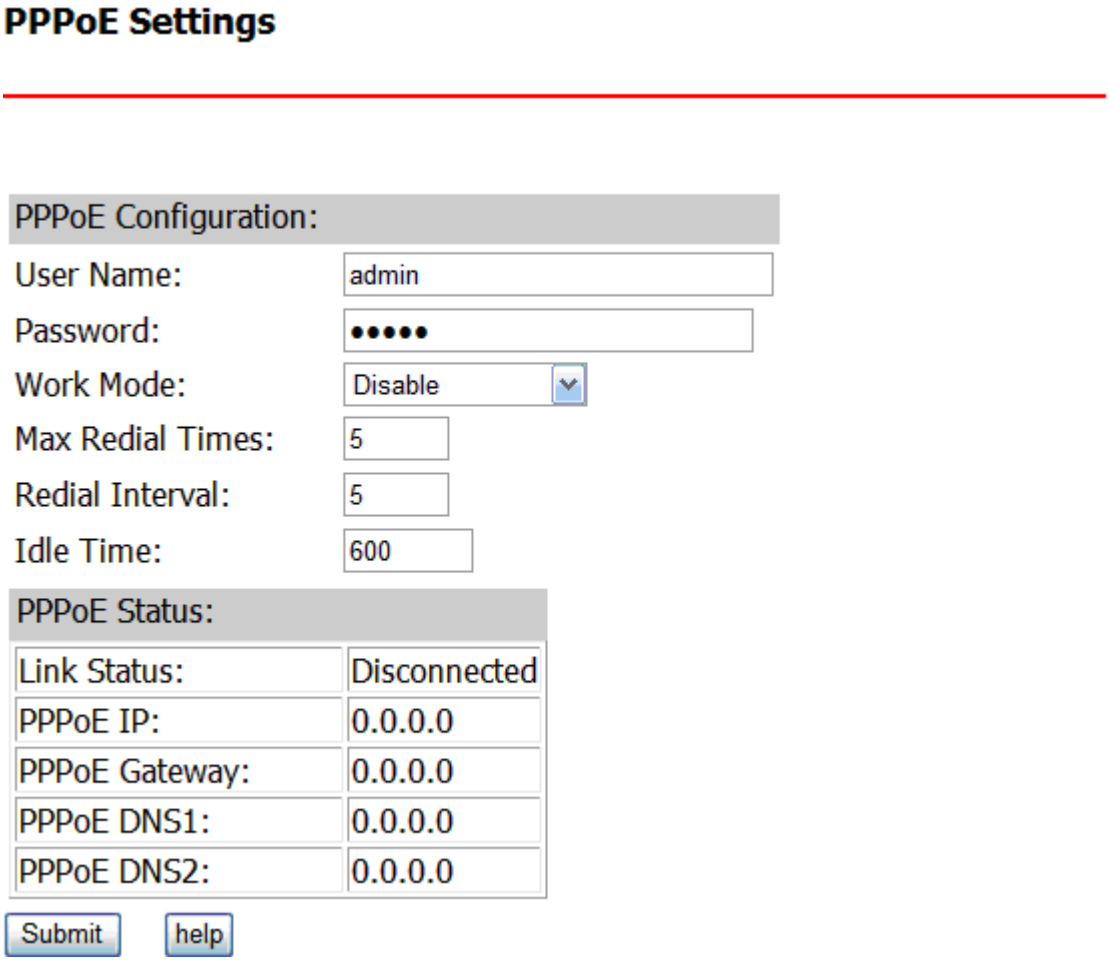



Figure 4-3 HTTP PPPoE settings page

There is two parts in this page for configuration: PPPoE configuration, PPPoE status. Please refer to the description of the parameters in section3.3.1, 3.3.2.

## 4.4 PPP

In the main menu click on link “PPP”, PPP configuration page will show as follows:

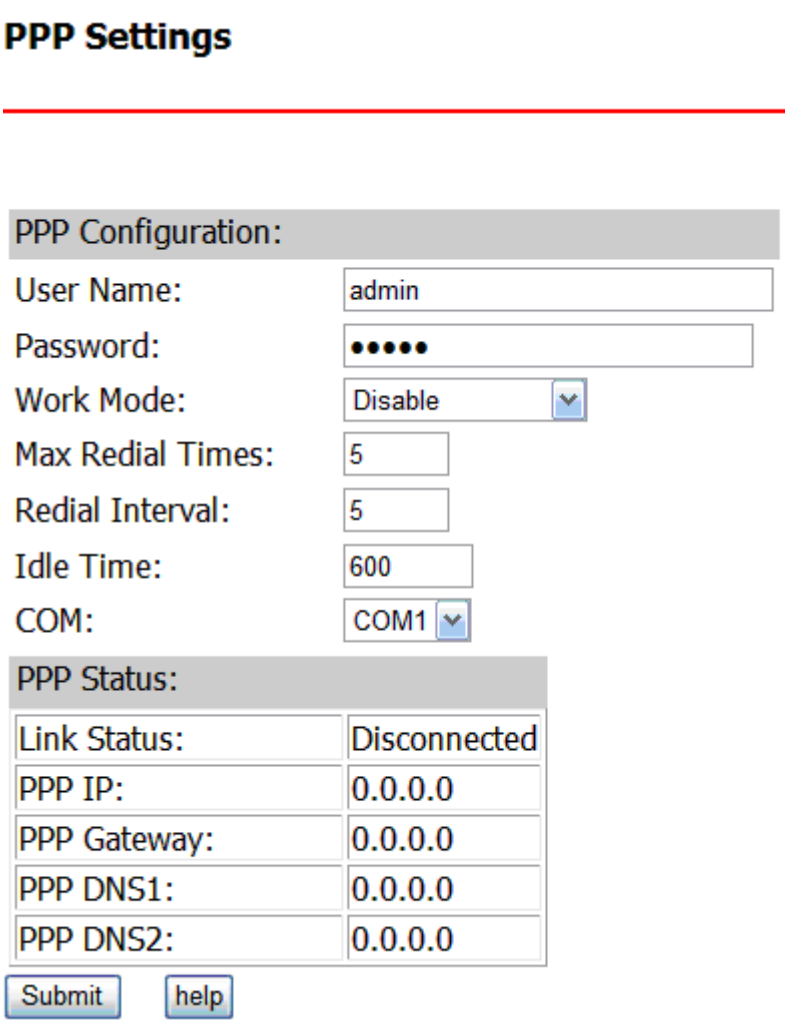



Figure 4-4 HTTP PPP settings page

There is two parts in this page for configuration: PPP configuration, PPP status. Please refer to the description of the parameters in section3.4.1, 3.4.2.

## 4.5 GPRS

In the main menu click on link “GPRS”, GPRS configuration page will show as follows:

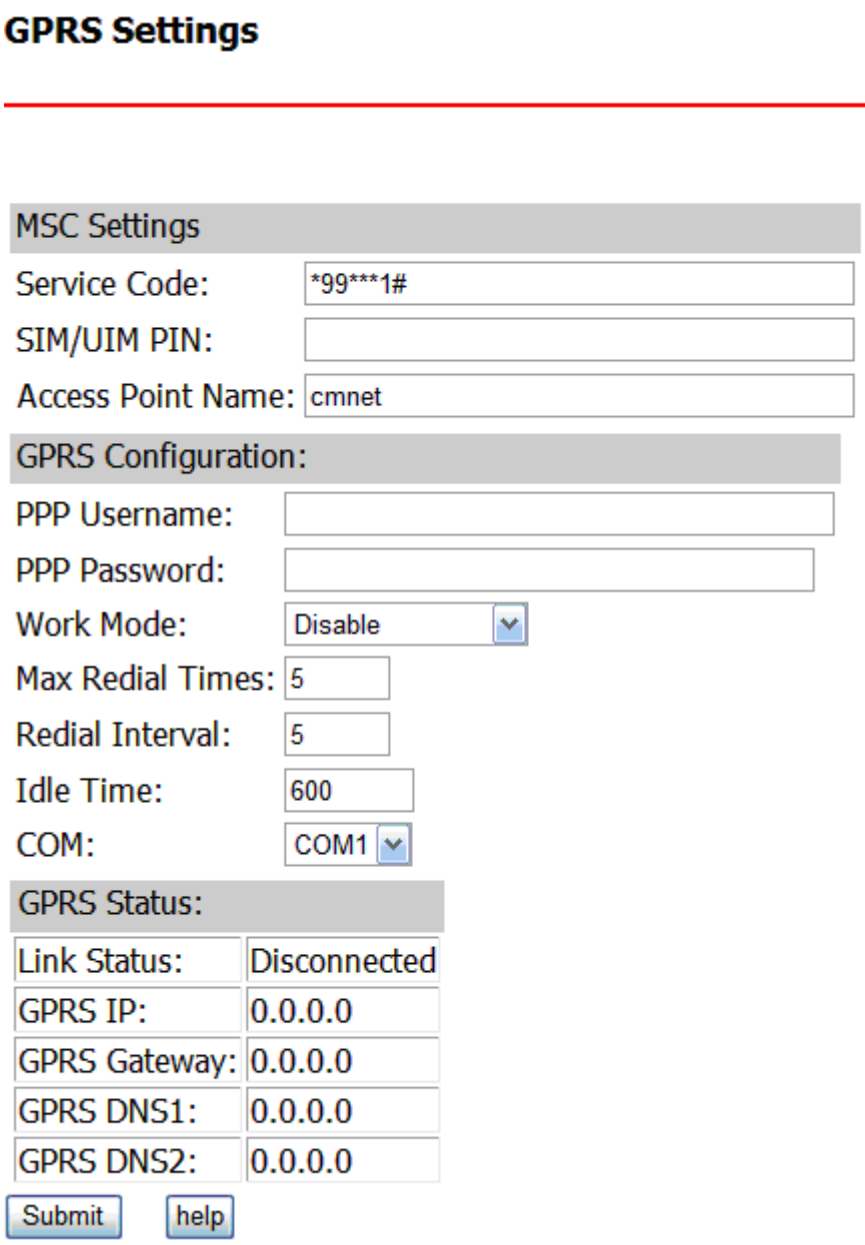



Figure 4-5 HTTP GPRS settings page

There is three parts in this page for configuration: MSC settings, GPRS configuration and GPRS status. Please refer to the description of the parameters in section 3.5.1, 3.5.2, 3.5.3.

## 4.6 Server Settings

In the main menu click on link “Server”, server configuration page will show as follows:

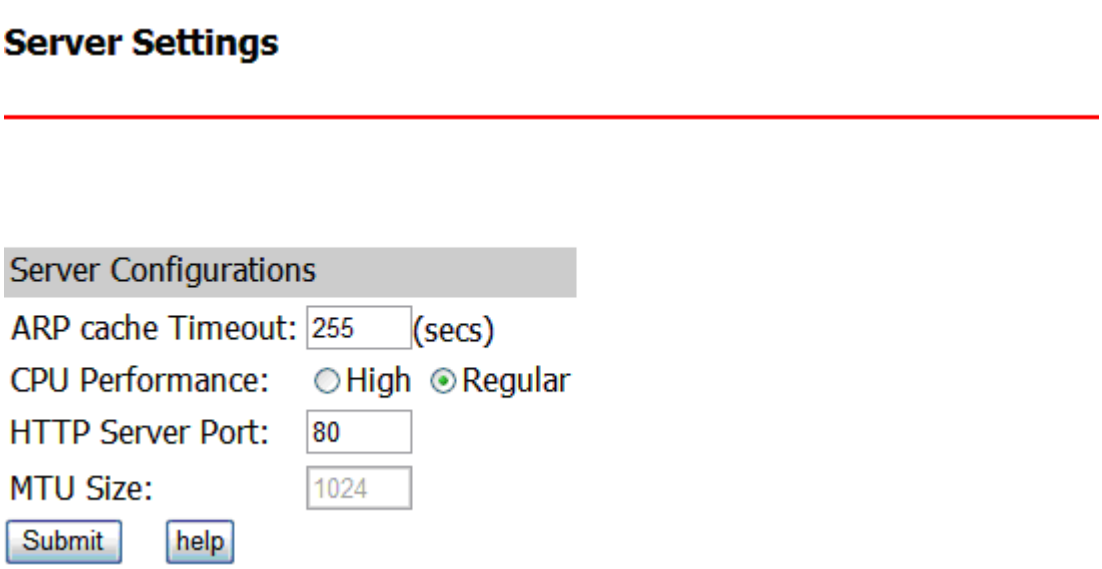



Figure 4-6 HTTP server settings page

There is only one part in this page for configuration: server configuration. Please refer to the description of the parameters in section 3.6.

Note:

If value of HTTP Server Port is other than 80, please attach port number when access WEB in address format http://address:port.

## 4.7 Serial Channel

The NEPORT series, each serial port on behalf of a channel, includes 3 parts to be configured: serial port settings, connection settings, remote host configuration.

### 4.7.1 Hostlist

In the main menu click on link “Hostlist”, hostlist configuration page will show as follows:

**Hostlist Settings**

**Channel 1**

Retry Settings

Retry Counter: 2 Retry Timeout: 2

Host Information

| No. | Host Address | Port | No. | Host Address | Port |
|---|---|---|---|---|---|
| 1 | | 0 | 2 | | 0 |
| 3 | | 0 | 4 | | 0 |
| 5 | | 0 | 6 | | 0 |
| 7 | | 0 | 8 | | 0 |
| 9 | | 0 | 10 | | 0 |
| 11 | | 0 | 12 | | 0 |

Backup Link: ◉ Disable ○ Enable

Submit help

Figure 4-7 HTTP host list settings page

There is two parts in this page for configuration: Retry settings and Host information. Please refer to the description of the parameters in section3.7.1, 3.7.2.

Note:

Host lists are valid only when in TCP client mode.

## 4.7.2 Serial Settings

In the main menu click on link “Serial setting”, serial port configuration page will show as follows:

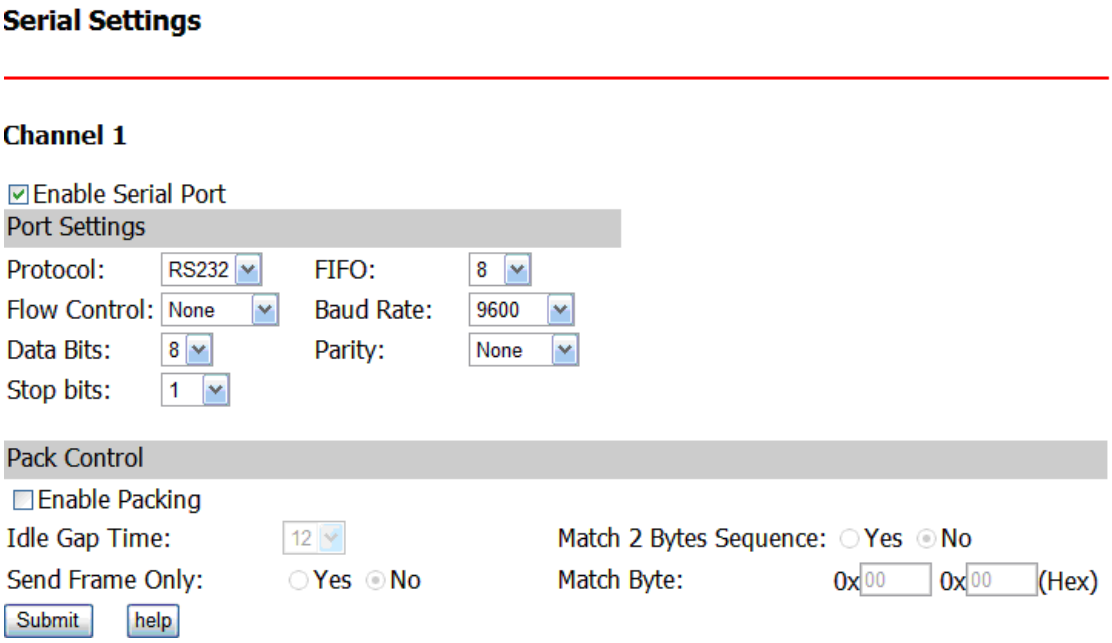



Figure 4-8 HTTP serial settings page

There is two parts in this page for configuration: Port settings and Pack Control. Please refer to the description of the parameters in section 3.8.1, 3.8.2, 3.8.3.

## 4.7.3 Connection

## 4.7.3.1 Connection Protocol

Click on the drop list of Connection Protocol, you will see the two choice: TCP and UDP. There is different page for you when select different item.

## 4.7.3.2 UDP

Select UDP as connection protocol, the UDP page will show as follow:

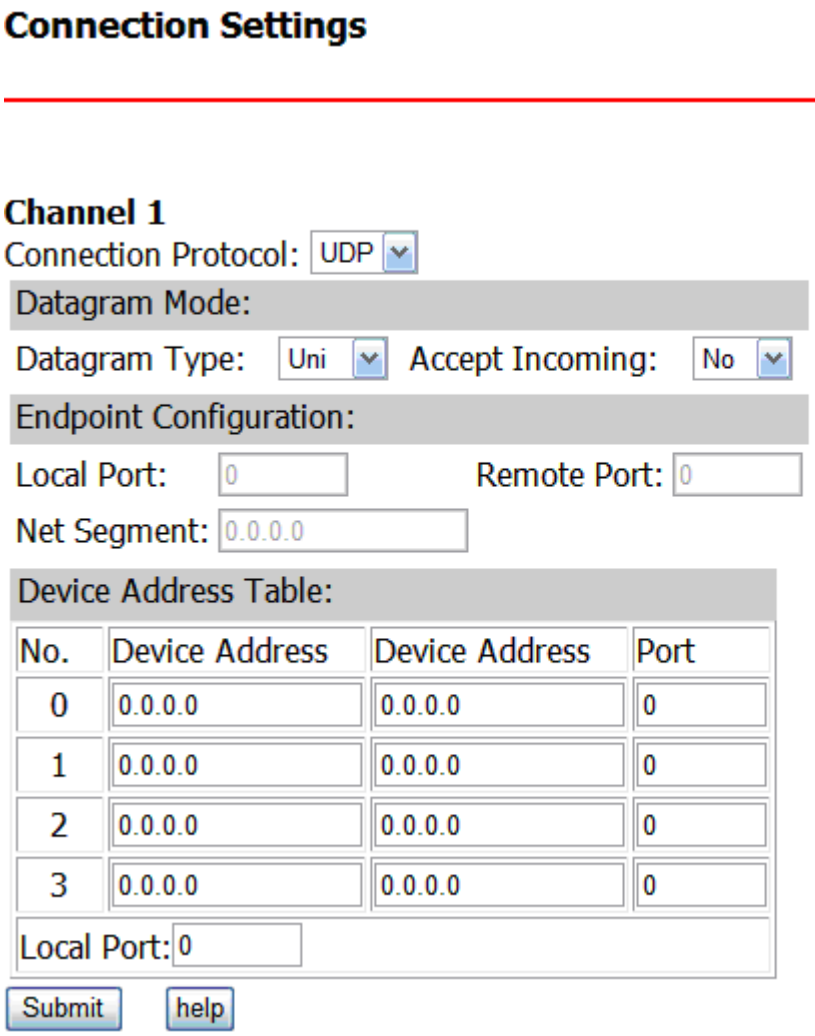



Figure 4-9 HTTP UDP settings page

There is three parts in this page for configuration: Datagram Mode, Endpoint configuration and Device Address Table. Please refer to the description of the parameters in section 3.9.2.

### 4.7.3.3 TCP

Select TCP as connection protocol, the TCP page will show as follow:

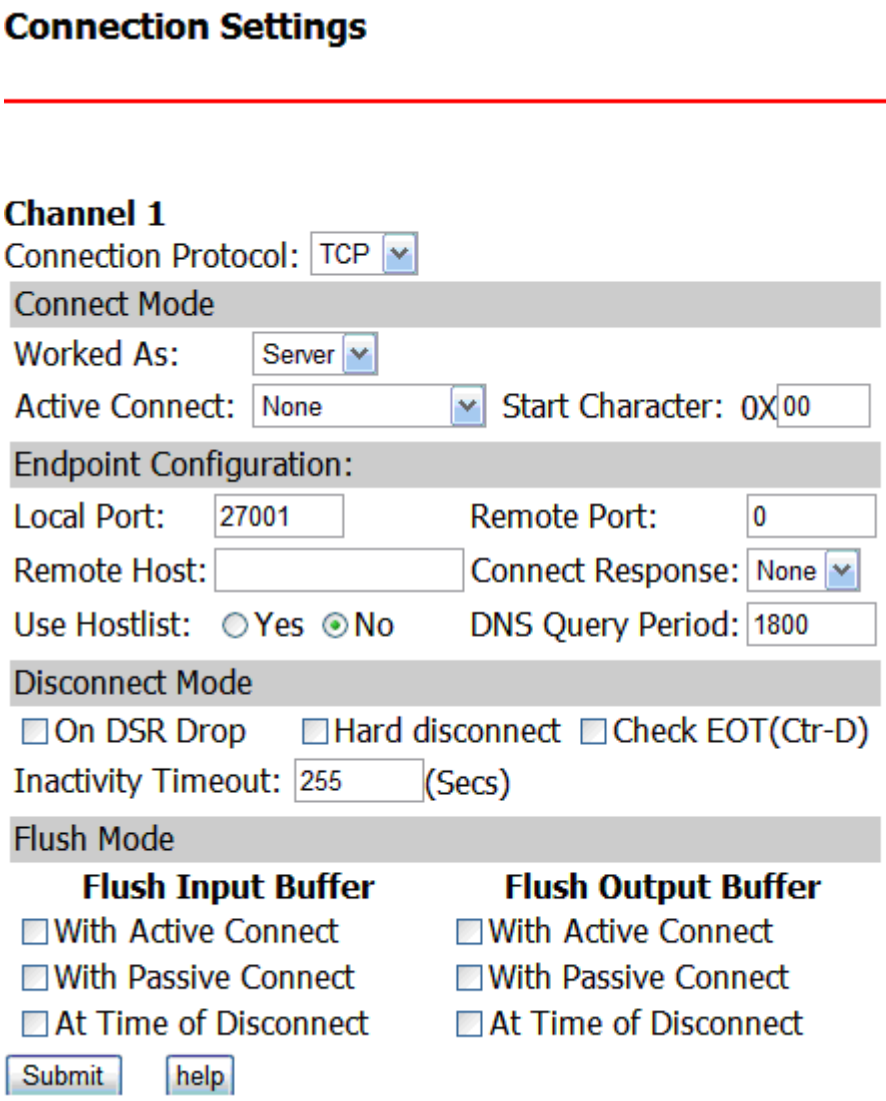



Figure 4-10 HTTP TCP settings page

There is four parts in this page for configuration: Connect Mode, Endpoint configuration, Disconnect Mode and Flush Mode. Please refer to the description of the parameters in section 3.9.3.

## 4.8 Email Settings

In the main menu click on link “Email settings”, email configuration page will show as follows:

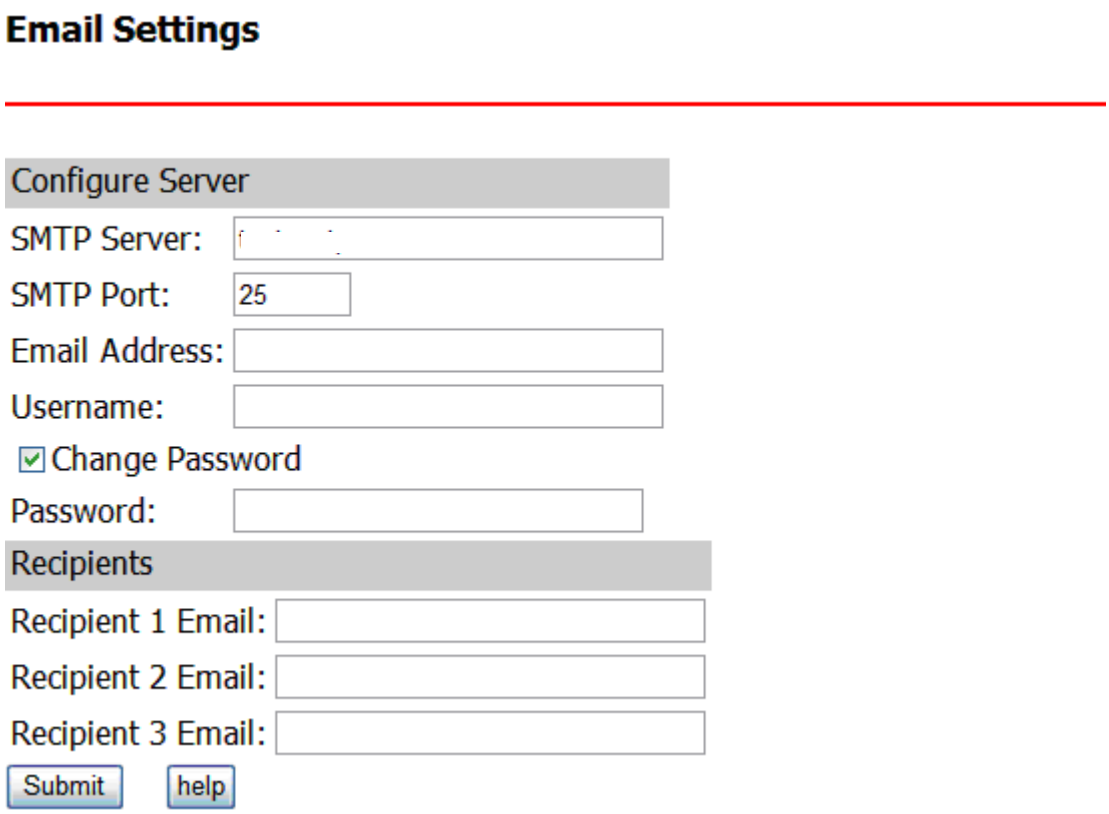



Figure 4-11 HTTP email settings page

There is two parts in this page for configuration: Configure Server and Recipients. Please refer to the description of the parameters in section 3.10.

## 4.9 Trigger Settings

In the main menu click on link “trigger settings” under Email, trigger settings page will show as follows:

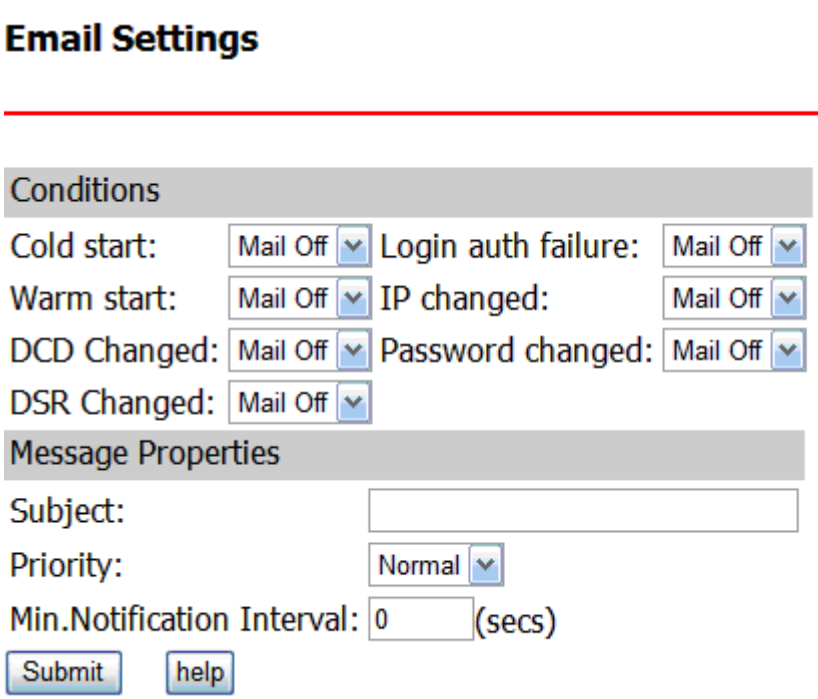



Figure 4-12 HTTP email trigger settings page

There is two parts in this page for configuration: Conditions and Message Properties. Please refer to the description of the parameters in section3.11.

## 4.10 Input Trigger Settings

In the main menu click on link "Input trigger settings" under Email, input trigger settings page will show as follows:

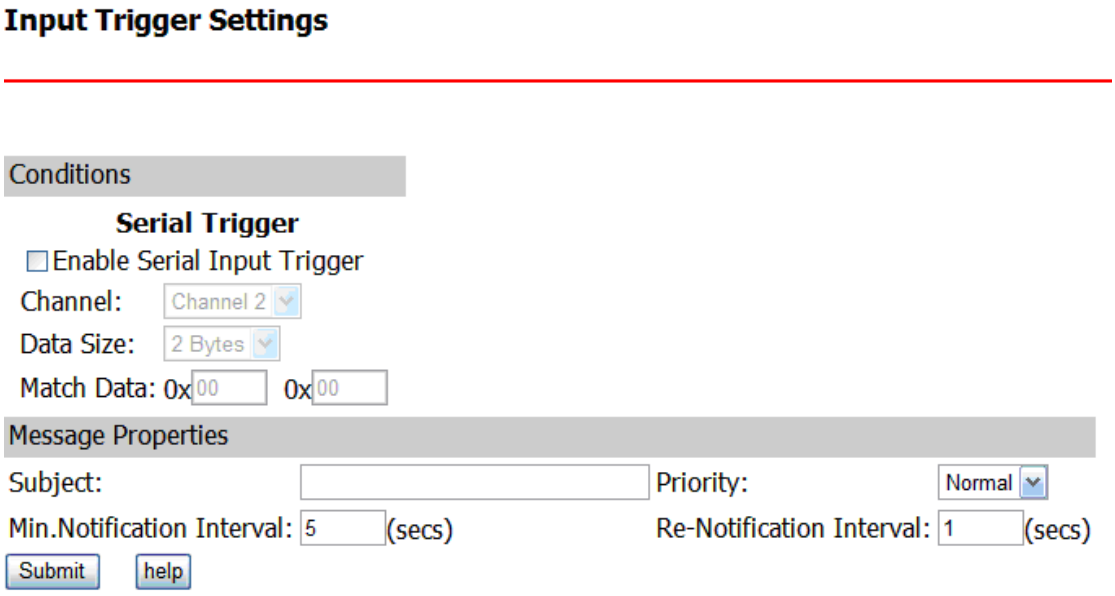



Figure 4-13 HTTP email input trigger settings page

There is two parts in this page for configuration: Conditions and Message Properties. Please refer to the description of the parameters in section3.12.

## 4.11 SNMP Settings

In the main menu click on link “SNMP”, SNMP configuration page will show as follows:

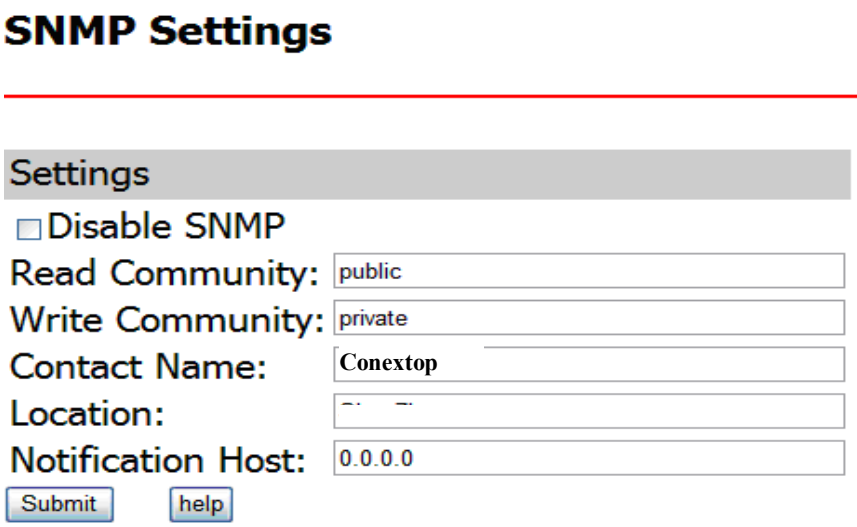



Figure 4-14 HTTP SNMP settings page

There is only one part in this page for configuration: SNMP settings. Please refer to the description of the parameters in section 3.13.

## 4.12 Password Setting

In the main menu click on link “Password settings”, password configuration page will show as follows:

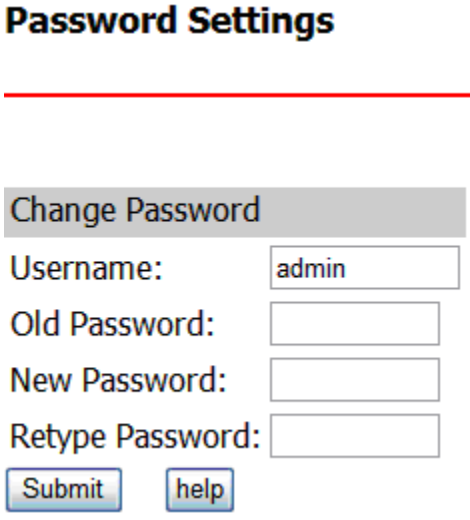



Figure 4-15 HTTP password settings page

There is only one part in this page for configuration: change password. Please refer to the description of the parameters in section3.14.

Note:

You can only modify the password of current user on this view.

## 4.13 Power manage

In the main menu click on link “Power manage”, system reset configuration page will show as follows:

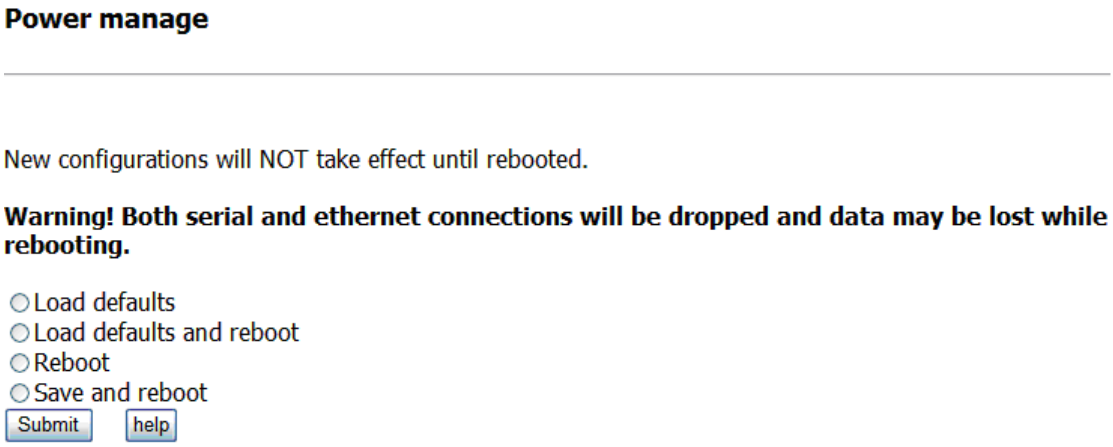

Power manage
New configurations will NOT take effect until rebooted.
Warning! Both serial and ethernet connections will be dropped and data may be lost while rebooting.
Load defaults
Load defaults and reboot
Reboot
Save and reboot
Submit
help

Figure 4-16 HTTP power manage page

There is only one part in this page for configuration: power manage. Please refer to the description of the parameters in section3.15.

Caution:

Before system restarting, please check whether there is any parameters need to save, if so please select “Save and reboot” option, otherwise the configuration will not saved.

## 4.14 Logout

Click “Logout” in the menu bar, enter the “log out” page, the page will be shut down after 3 seconds, the user needs to re-verify when login again, as follows:

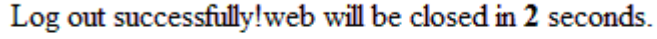



Figure 4-17 HTTP logout page

# Chapter 5 TELNET Configuration

Telnet (teletype network) is a network protocol used on the Internet or local area networks to provide a bidirectional interactive communications facility. Typically, telnet provides access to a command-line interface on a remote host via a virtual terminal connection which consists of an 8-bit byte oriented data connection over the Transmission Control Protocol (TCP). User data is interspersed in-band with TELNET control information.

## 5.1 Basic Settings

Change to the main menu view, enter the shortcut keys before "basic settings", then changed to the basic settings view, as follows:

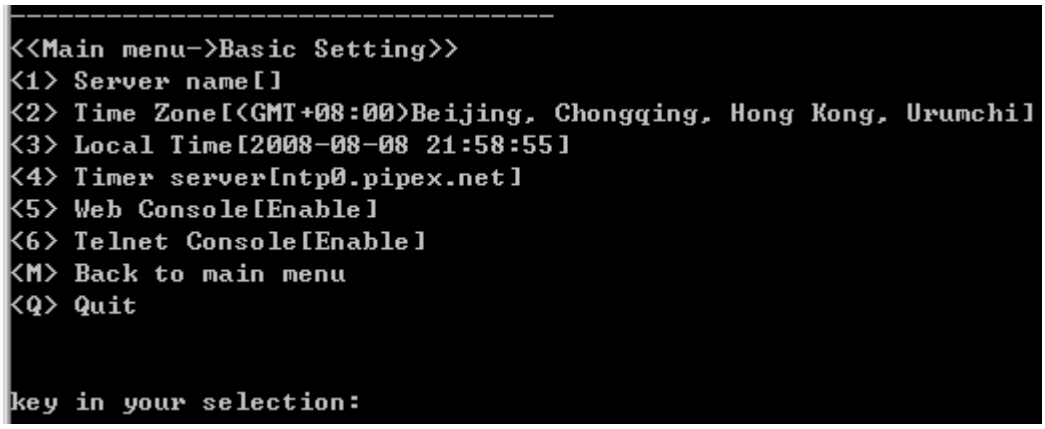



Figure 5-1 TELNET basic settings view

Please refer to the description of the parameters in section3.1.

## 5.2 Network

Change to the main menu view, enter the shortcut keys before "Network", then changed to the network settings view, as follows:

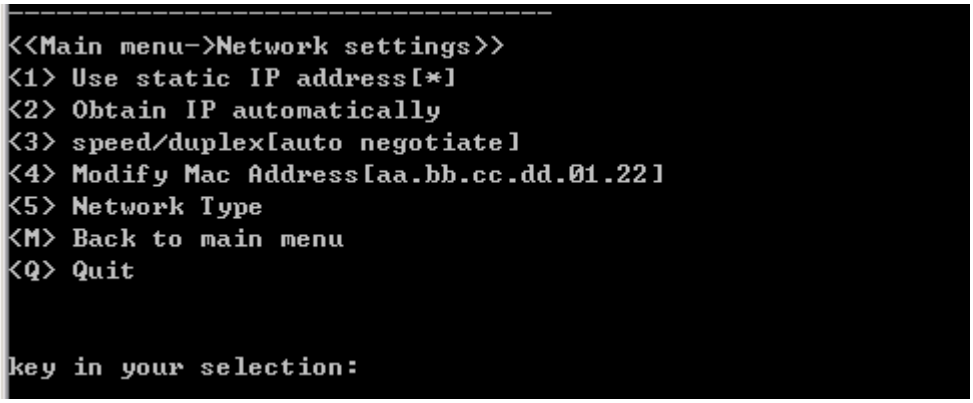


Figure 5-2 TELNET network settings view

## 5.2.1 Static IP address configuration

Change to the network setting view, enter the shortcut keys before “Use static IP address”, then changed to the static IP address settings view, as follows:

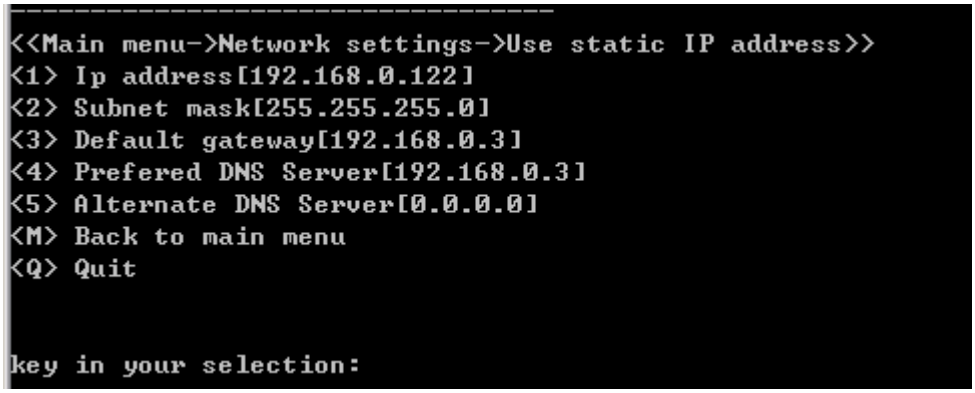



Figure 5-3 TELNET static IP address view

Please refer to the description of the parameters in section3.2.

## 5.2.2 Dynamic IP address configuration

Change to the network setting view, enter the shortcut keys before “Obtain IP automatically”, then changed to the dynamic IP address settings view, as follows:

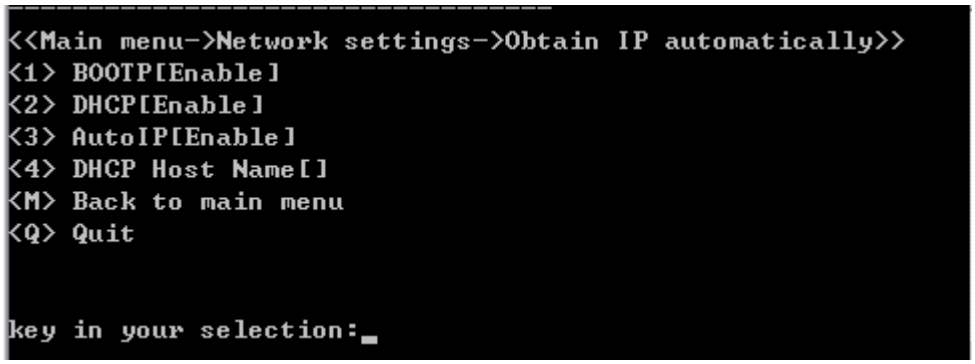



Figure 5-4 TELNET dynamic IP address view

Please refer to the description of the parameters in section3.2.

## 5.2.3 Netcard setting

Change to the network setting view, enter the shortcut keys before “Speed/duplex”, then changed to the netcard settings view, as follows:

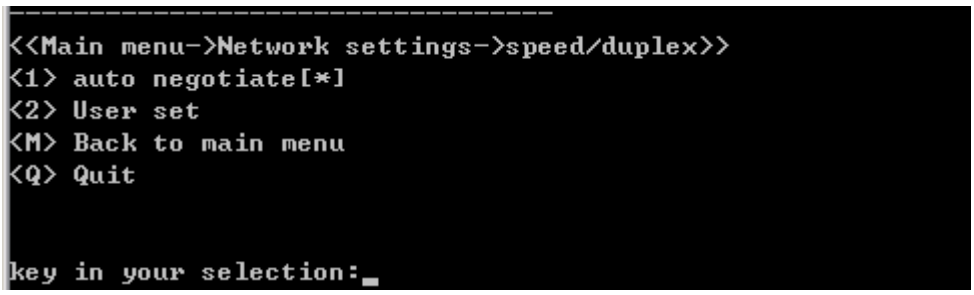



Figure 5-5 TELNET netcard settings view

Please refer to the description of the parameters in section3.2.

### 5.2.4 Network type

Change to the network setting view, enter the shortcut keys before “Network Type”, then changed to the network type settings view, as follows:

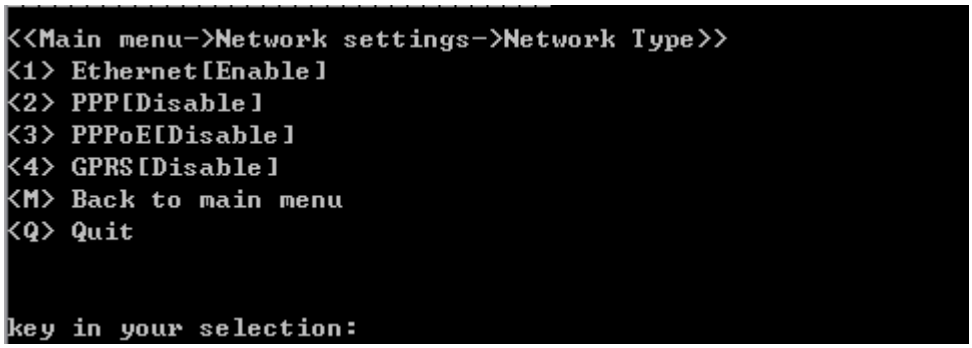



Figure 5-6 TELNET network type view

Please refer to the description of the parameters in section3.2

## 5.3 PPPoE

Change to the main menu view, enter the shortcut keys before “PPPoE Settings”, then changed to the PPPoE settings view, as follows:

```
----------------------------------
<<Main menu->PPPoE Settings>>
<1> User Name[admin]
<2> Password[******]
<3> WorkMode[Disable]
<4> Max Redial Times[5]
<5> Redial Interval[5]
<6> Idle Time[600]
    Current Status[deactive]
    PPPoE IP[0.0.0.0]
    PPPoE Gateway[0.0.0.0]
    PPPoE DNS1[0.0.0.0]
    PPPoE DNS2[0.0.0.0]
<M> Back to main menu
<Q> Quit


key in your selection:
```

Figure 5-7 TELNET PPPoE view

Please refer to the description of the parameters in section3.3.

## 5.4 PPP

Change to the main menu view, enter the shortcut keys before “PPP Settings”, then changed to the PPP settings view, as follows:

```
----------------------------------
<<Main menu->PPP Settings>>
<1> User Name[admin]
<2> Password[******]
<3> WorkMode[Disable]
<4> Max Redial Times[5]
<5> Redial Interval[5]
<6> Idle Time[600]
<7> PPP Com ID[COM1]
    Current Status[deactive]
    PPP IP[0.0.0.0]
    PPP Gateway[0.0.0.0]
    PPP DNS1[0.0.0.0]
    PPP DNS2[0.0.0.0]
<M> Back to main menu
<Q> Quit


key in your selection:
```

Figure 5-8 TELNET PPP view

Please refer to the description of the parameters in section 3.4.

## 5.5 GPRS

Change to the main menu view, enter the shortcut keys before “GPRS Settings”, then

changed to the GPRS settings view, as follows:

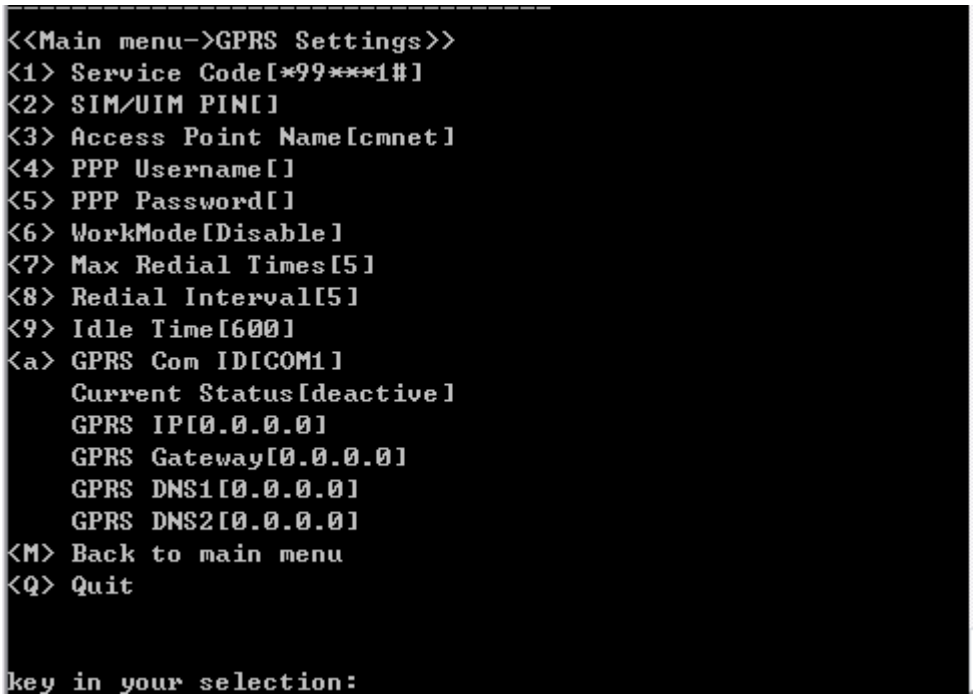



Figure 5-9 TELNET GPRS view

Please refer to the description of the parameters in section 3.5.

## 5.6 Server Settings

Change to the main menu view, enter the shortcut keys before “Server Settings”, then changed to the Server settings view, as follows:

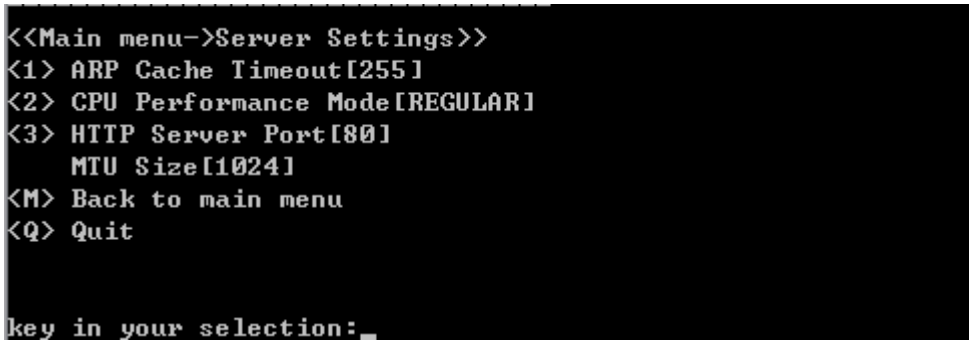



Figure 5-10 TELNET server settings view

Please refer to the description of the parameters in section 3.6.

## 5.7 Channel settings

Change to the main menu view, enter the shortcut keys before “Serial Channel”, then changed to the serial channel view, as follows:

```
<<Main menu->Serial Channel>>
<1> Serial Channel1
<2> Serial Channel2
<M> Back to main menu
<Q> Quit

key in your selection:
```

Figure 5-11 TELNET serial channel view

Change to the serial channel view, enter the shortcut keys before “Serial Channelx”(x is the channel No.), then changed to the specified serial channel view, as follows:

```
<<Main menu->Serial Channel->Serial Channel1>>
<1> Connection Settings[TCP]
<2> Hostlist settings
<3> Serial settings
<M> Back to main menu
<Q> Quit

key in your selection:
```

Figure 5-12 TELNET specified serial channel view

## 5.7.1 Hostlist

Change to the specified serial channel view, enter the shortcut keys before “Hostlist settings”, then changed to the hostlist settings view, as follows:

```
<<Main menu->Serial Channel->Serial Channel1->Hostlist settings>>
<1> Retry Counter[2]
<2> Retry Timeout[2]
<3> Host1
<4> Host2
<5> Host3
<6> Host4
<7> Host5
<8> Host6
<9> Host7
<a> Host8
<b> Host9
<c> Host10
<d> Host11
<e> Host12
<f> backup link[Disable]
<M> Back to main menu
<Q> Quit

key in your selection:
```

Figure 5-13 TELNEThostlist settings view

Please refer to the description of the parameters in section .

## 5.7.2 Serial Settings

Change to the specified serial channel view, enter the shortcut keys before “Serial settings”, then changed to the Serial settings view, as follows:

```
<<Main menu->Serial Channel->Serial Channel1->Serial settings>>
<1> Enable Serial Port[Enable]
<2> Protocol[RS232]
<3> Baud rate[9600]
<4> Data bits[8]
<5> Stop bits[1]
<6> Parity[NO]
<7> Flow control[None]
<8> FIFO[8]
<9> Enable Packing[No]
<M> Back to main menu
<Q> Quit

key in your selection:
```

Figure 5-14 TELNET serial settings view

Please refer to the description of the parameters in section 3.8.

## 5.7.3 Connection

## 5.7.3.1 Connection Protocol

Change to the specified serial channel view, enter the shortcut keys before “Connection settings”, then changed to the Connection protocol view, as follows:

```
<<Main menu->Serial Channel->Serial Channel1->Connection Settings
>>
<1> TCP
<2> UDP[*]
<M> Back to main menu
<Q> Quit

key in your selection:
```

Figure 5-15 TELNET connection protocol view

## 5.7.3.2 UDP

Change to the connection protocol view, enter the shortcut keys before “UDP”, then changed to the UDP view, as follows:

```
<<Main menu->Serial Channel->Serial Channel1->Connection Settings
->UDP>>
<1> Accept incoming[No]
<2> Datagram type[Uni]
<M> Back to main menu
<Q> Quit


key in your selection:
```

Figure 5-16 TELNET UDP view

Please refer to the description of the parameters in section 3.9.2.

#### 5.7.3.3 TCP

Change to the connection protocol view, enter the shortcut keys before “TCP”, then changed to the TCP view, as follows:

```
<<Main menu->Serial Channel->Serial Channel1->Connection Settings
->TCP>>
<1> Work As[Server]
<2> Active connect[None]
<3> Start character[0x0]
<4> Local port[27001]
<5> Remote port[0]
<6> Remote host[]
<7> Connect Response[None]
<8> Use Hostlist[Disable]
<9> DNS Query Period[1800]
<a> Disconnect Mode
<b> Flush input buffer
<c> Flush output buffer
<M> Back to main menu
<Q> Quit


key in your selection:
```

Figure 5-17 TELNET TCP view

Please refer to the description of the parameters in section 3.9.3.

## 5.8 Email Settings

Change to the main menu view, enter the shortcut keys before “Email Settings”, then changed to the Email view, as follows:

```
<<Main menu->Email settings>>
<1> Email Settings
<2> Trigger Settings
<3> Input Trigger Settings
<M> Back to main menu
<Q> Quit


key in your selection:
```

Figure 5-18 TELNET email view

## 5.8.1 Email Settings

Change to the email view, enter the shortcut keys before “Email Settings”, then changed to the Email settings view, as follows:

```
<<Main menu->Email settings->Email Settings>>
<1> SMTP Server[test.smtp.srv]
<2> SMTP Port[25]
<3> Email Address[]
<4> User name[]
<5> Password[******]
<6> Recipient 1 Email[]
<7> Recipient 2 Email[]
<8> Recipient 3 Email[]
<M> Back to main menu
<Q> Quit


key in your selection:
```

Figure 5-19 TELNET email settings view

Please refer to the description of the parameters in section 3.10.

## 5.8.2 Trigger Settings

Change to the email view, enter the shortcut keys before “Trigger Settings”, then changed to the normal email trigger view, as follows:

```
<<Main menu->Email settings->Trigger Settings>>
<1> Cold start[Disable]
<2> Warm start[Disable]
<3> Login auth failure[Disable]
<4> IP changed[Disable]
<5> Password changed[Disable]
<6> DCD changed[Disable]
<7> DSR changed[Disable]
<8> Subject[]
<9> Priority[NORMAL]
<a> Min.Notification Interval(Secs)[0]
<M> Back to main menu
<Q> Quit

key in your selection:
```

Figure 5-20 TELNET normal email trigger view

Please refer to the description of the parameters in section 3.11.

### 5.8.3 Input Trigger Settings

Change to the email view, enter the shortcut keys before "Input Trigger Settings", then changed to the input email trigger view, as follows:

```
<<Main menu->Email settings->Input Trigger Settings>>
<1> Enable Serial Trigger Input[Disable]
<2> Subject[]
<3> Priority[NORMAL]
<4> Min.Notification Interval(Secs)[5]
<5> Re-Notification Interval(Secs)[1]
<M> Back to main menu
<Q> Quit

key in your selection:
```

Figure 5-21 TELNET input email trigger view

Please refer to the description of the parameters in section 3.12.

## 5.9 SNMP Settings

Change to the main menu view, enter the shortcut keys before "SNMP Settings", then changed to the SNMP view, as follows:

```
----------------------------------
<<Main menu->SNMP Setting>>
<1> Disable SNMP[No]
<2> Read Community[public]
<3> Write Community[private]
<4> Contact Name[]
<5> Location[ShenZhen]
<6> Notification Host[0.0.0.0]
<M> Back to main menu
<Q> Quit


key in your selection:_
```

Figure 5-22 TELNET SNMP view

Please refer to the description of the parameters in section 3.13.

## 5.10 User Manage

Change to the main menu view, enter the shortcut keys before “User manage”, then changed to the user manage view, as follows:

```
----------------------------------
<<Main menu->User Manage>>
<1> User1
<2> User2
<3> User3
<4> User4
<5> User5
<M> Back to main menu
<Q> Quit


key in your selection:_
```

Figure 5-23 TELNET user manage view

There is 5 users for configuration, the first user admin has the administrator privilege and can not be deleted. The others are normal user can be modified and deleted by admin.

Change to the user manage view, enter the shortcut keys before “User1”, and then changed to the administrator view, as follows:

```
----------------------------------
<<Main menu->User Manage->User1>>
<1> Change password[******]
<M> Back to main menu
<Q> Quit


key in your selection:_
```

Figure 5-24 TELNET administrator view

Change to the user manage view, enter the shortcut keys before “Userx”(2-5), then changed to the user view, as follows:

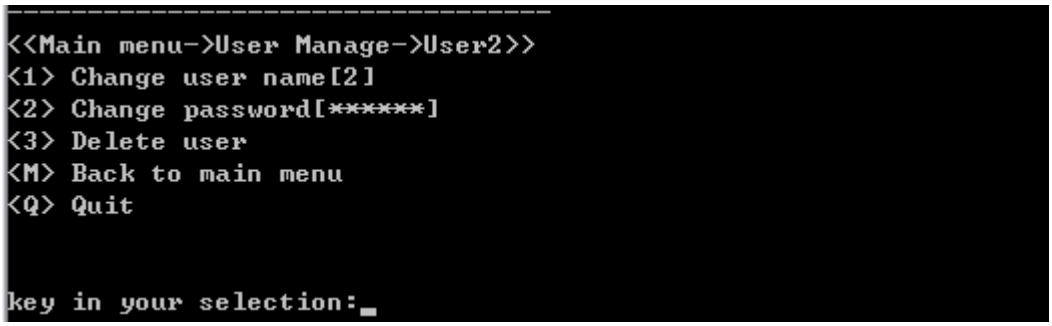



Figure 5-25 TELNET normal user view

Caution:

The user manage view only appear when admin login.

## 5.11 Password Setting

Change to the main menu view, enter the shortcut keys before "Password Setting", then changed to the password settings view, as follows:

Figure 5-26 TELNET password settings view

## 5.12 Load factory default

Change to the main menu view, enter the shortcut keys before "Load factory default", then changed to the load factory view, as follows:

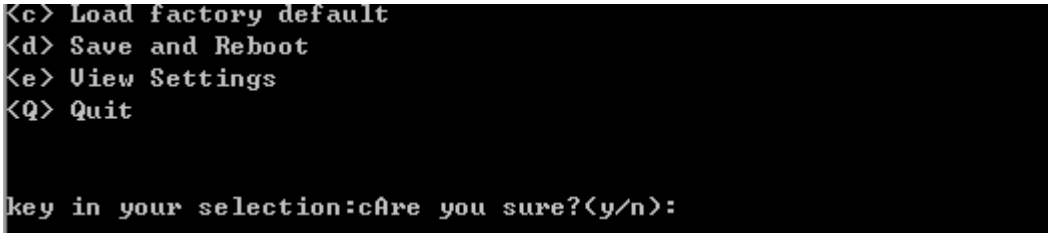



Figure 5-27 TELNET load factory view

## 5.13 Save and Reboot

Change to the main menu view, enter the shortcut keys before "Save and Reboot", then

changed to the save and reboot view, as follows:

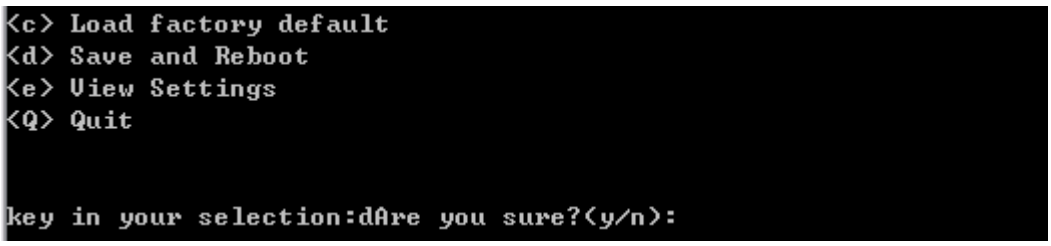



Figure 5-28 TELNET save and reboot view

## 5.14 View Settings

Change to the main menu view, enter the shortcut keys before "View Settings", then you can view all the settings page by page, press any key to view next page.

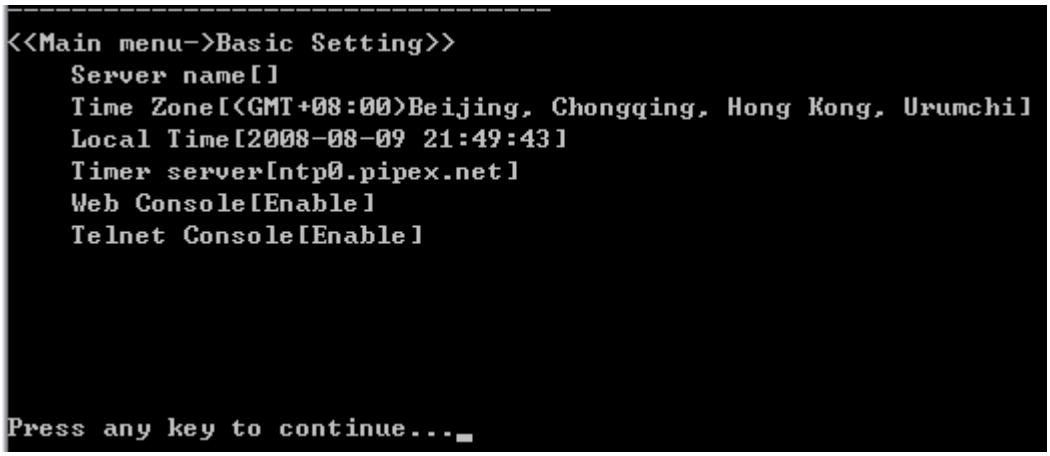



Figure 5-29 view the settings

# Chapter 6 AT Command

AT command is a set of communication protocols between a host computer and devices. AT originated in the word "Attention", it was first used for communication between terminal and modem, and then latter gradually evolved into industry standards for communications equipment. NEPORT series products expands it, support the use of AT commands to configure device parameters and network connectivity and so on.

## 6.1 AT commands for parameters setting

Please refer to the CONEXTOP NEPORT AT commands to get the detail description of AT commands.

### 6.1.1 Basic Settings

| command | contents |
|---|---|
| AT!BC | WEB and TELENT console switch |
| AT!BDN | Set the name of device |
| AT!BTS | Set time related parameters. |

Table 6-1 AT commands for basic settings

### 6.1.2 Network

| command | contents |
|---|---|
| AT!EC | Ethernet settings |
| AT!IC | IP address obtain methods settings |
| AT!AIC | Automatically obtain IP address settings |

Table 6-2 AT commands for network

### 6.1.3 PPPoE

| command | contents |
|---|---|
| AT!PC | PPPoE dial-up settings |
| AT!PS | PPPoE status query |

Table 6-3 AT commands for PPPoE

### 6.1.4 PPP

| command | contents |
|---|---|
| AT!PSC | PPP dial-up settings |
| AT!PSS | query PPP status |

Table 6-4 AT commands for PPP

### 6.1.5 GPRS

| command | contents |
|---|---|
| AT!PGC | GPRS dial-up settings |
| AT!PGS | GPRS status |
| AT!SUP | SIM/UIM card PIN |
| AT!WMSC | Mobile service center settings |

Table 6-5 AT commands for GPRS

### 6.1.6 Server Settings

| command | contents |
|---|---|
| AT!HP | Set HTTP server port |
| AT!SC | Server settings |

Table 6-6 AT command for server settings

### 6.1.7 Host list

| command | contents |
|---|---|
| AT!HC | Host lists retry settings |
| AT!HHL | Host lists host settings |

Table 6-7 AT commands for host list

### 6.1.8 Serial Settings

| command | contents |
|---|---|
| AT!SP | Whether or not to enable serial port |
| AT!SPP | Serial port properties |
| AT!SPPC | Serial port packing settings |

Table 6-8 AT commands for serial settings

### 6.1.9 Connection

| command | contents |
|---|---|
| AT!CPC | Connection protocol |
| AT!CTCR | TCP connection response |
| AT!CTDM | TCP hard disconnect |
| AT!CTFIB | Clear input buffer settings |
| AT!CTFOB | Clear output buffer settings |
| AT!CTIT | TCP connection idle time |
| AT!CTUHL | Whether or not enable hostlist function |
| AT!TC | TCP configuration |
| AT!UDM | UDP datagram type |
| AT!UDT | UDP uni-cast address table |
| AT!UMC | UDP multi-cast settings |

Table 6-9 AT commands for connection

### 6.1.10 Email Settings

| command | contents |
|---|---|
| AT!REC | Email receipt settings |
| AT!SEC | Email sender settings |
| AT!SMTPC | SMTP server settings |

Table 6-10 AT commands for email settings

### 6.1.11 Trigger Settings

| command | contents |
|---|---|
| AT!ET | Normal email trigger settings |
| AT!ETEC | Normal email properties |

Table 6-11 AT commands for trigger settings

### 6.1.12 Input Trigger Settings

| command | contents |
|---|---|
| AT!EITC | Input trigger mail settings |
| AT!EITEC | Mail properties triggered by serial input data |

Table 6-12 AT commands for input trigger settings

### 6.1.13 SNMP

| command | Contents |
|---|---|
| | |

Table 6-13 AT commands for SNMP

### 6.1.14 Password Setting

| command | contents |
|---|---|
| AT!UM | Use manage |

Table 6-14 AT commands for password setting

### 6.1.15 Special command

| command | contents |
|---|---|
| AT!V | Show all the AT command |
| AT!EXIT | Quit AT command mode |
| AT!LD | Load factory value |
| AT!R | Save and reset device |
| AT!S | Save the parameters |
| AT!SL | Enter the serial login mode |

Table 6-15 special AT command

## 6.2 FTP AT command

NEPORT series supports the use of AT commands for the operation of FTP client, provides traditional industries devices with the FTP client function. Users only need to send AT commands through the serial port, and then can achieve a two-way file transmission between storage systems of the NEPORT series products, FTP servers and local.

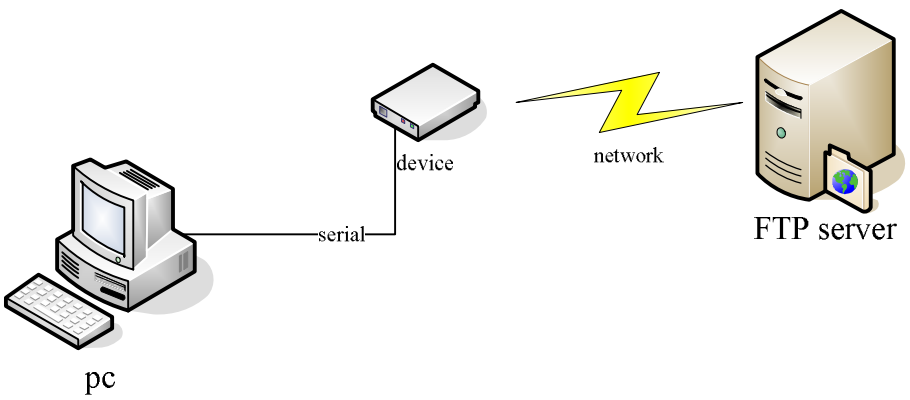



Figure 6-1 using AT command for FTP Scenarios

### 6.2.1 Local and device

| command | contents |
|---|---|
| AT!LFOP | Open a file in device |
| AT!LFCL | Close a file in device opened |
| AT!LFRD | Read data from device file |
| AT!LFWR | Write data to device file |
| AT!LFLS | List all the files in device |

Table 6-16 AT commands for local and device

### 6.2.2 Local and FTP server

| command | contents |
|---|---|
| AT!RCOP | Open a ftp connection and login from local |
| AT!RCCL | Close a ftp connection from local |
| AT!RFOP | Open a file on FTP server from local |
| AT!RFCL | Close a file on FTP server from local |
| AT!RFRD | Read data from file on FTP server from local |
| AT!RFWR | Write data to file on FTP server from local |
| AT!RFLS | List all the files on FTP server from local |

Table 6-17 AT commands for local and FTP server

### 6.2.3 Device and FTP server

| command | contents |
|---|---|
| AT!RCOP | Open a ftp connection and login from device |
| AT!RCCL | Close a ftp connection from device |
| AT!RFPUT | Write data to file on FTP server from device |
| AT!RFGET | Read data from file on FTP server from device |

Table 6-18 AT commands for device and FTP server

### 6.2.4 Read file procedure

Whether to read file data from the device to the local, or read the file from the FTP server data to local, in addition to differences in the command format, the same process has been followed. First of all, to open the file, and then read from a data file, in order to distinguish between the data blocks, the read file data command must carry the serial number of data blocks, if failed to read, the same piece of data can be read again, prevent the loss of data blocks; close the file when finish, otherwise an error will occur when read and write documents again.

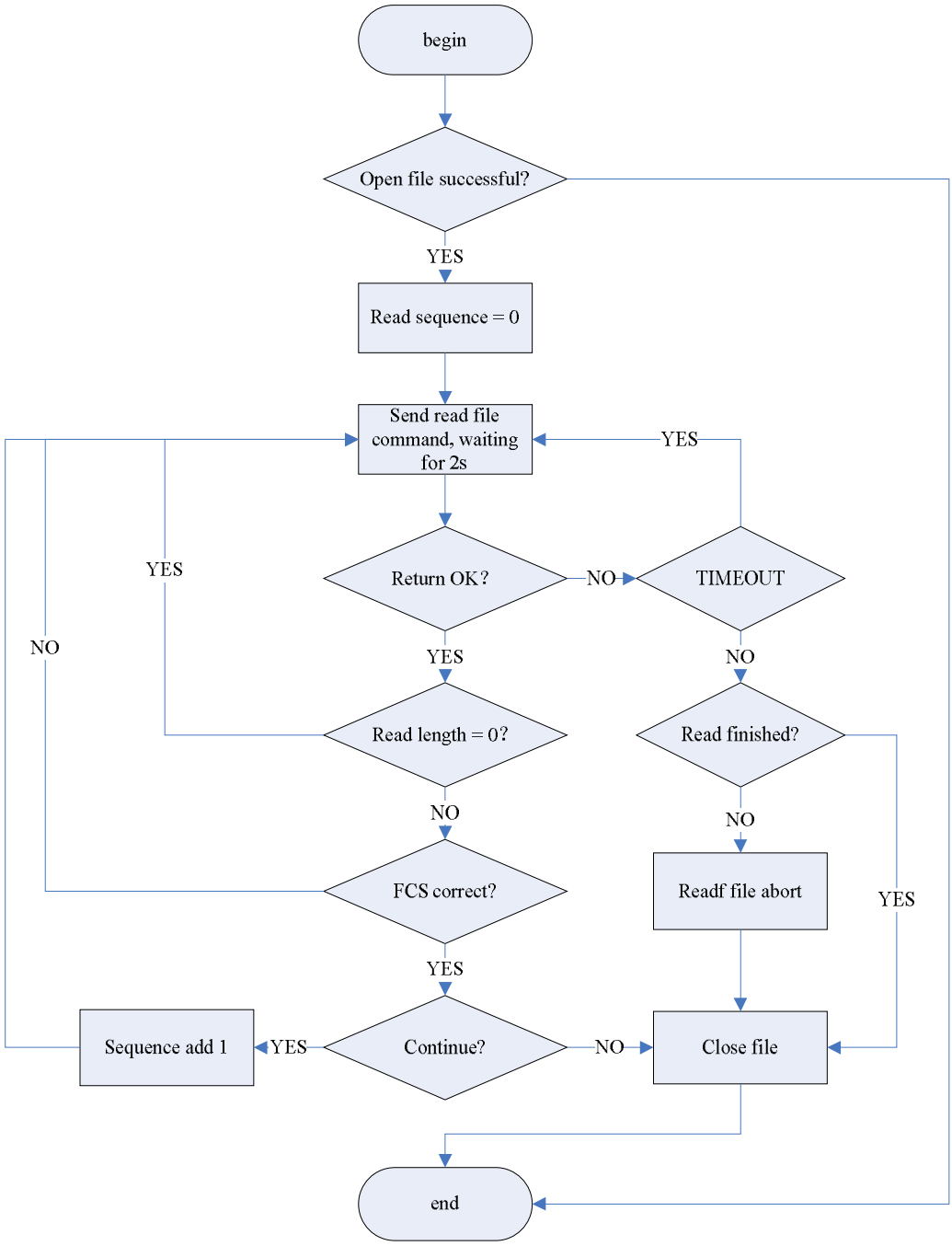



Figure 6-2 using AT command to read data from file

## 6.2.5 Write to file procedure

The same as reading data from file, whether to write file data to the device, or write the file to FTP server, in addition to differences in the command format, the same process has been followed. First of all, to open the file, and then write data to file, in order to distinguish between the data blocks, the write file data command must carry the serial number of data blocks, if failed to write, the same piece of data can be send again, prevent the loss of data blocks; close the file when finish, otherwise an error will occur when read and write documents again.

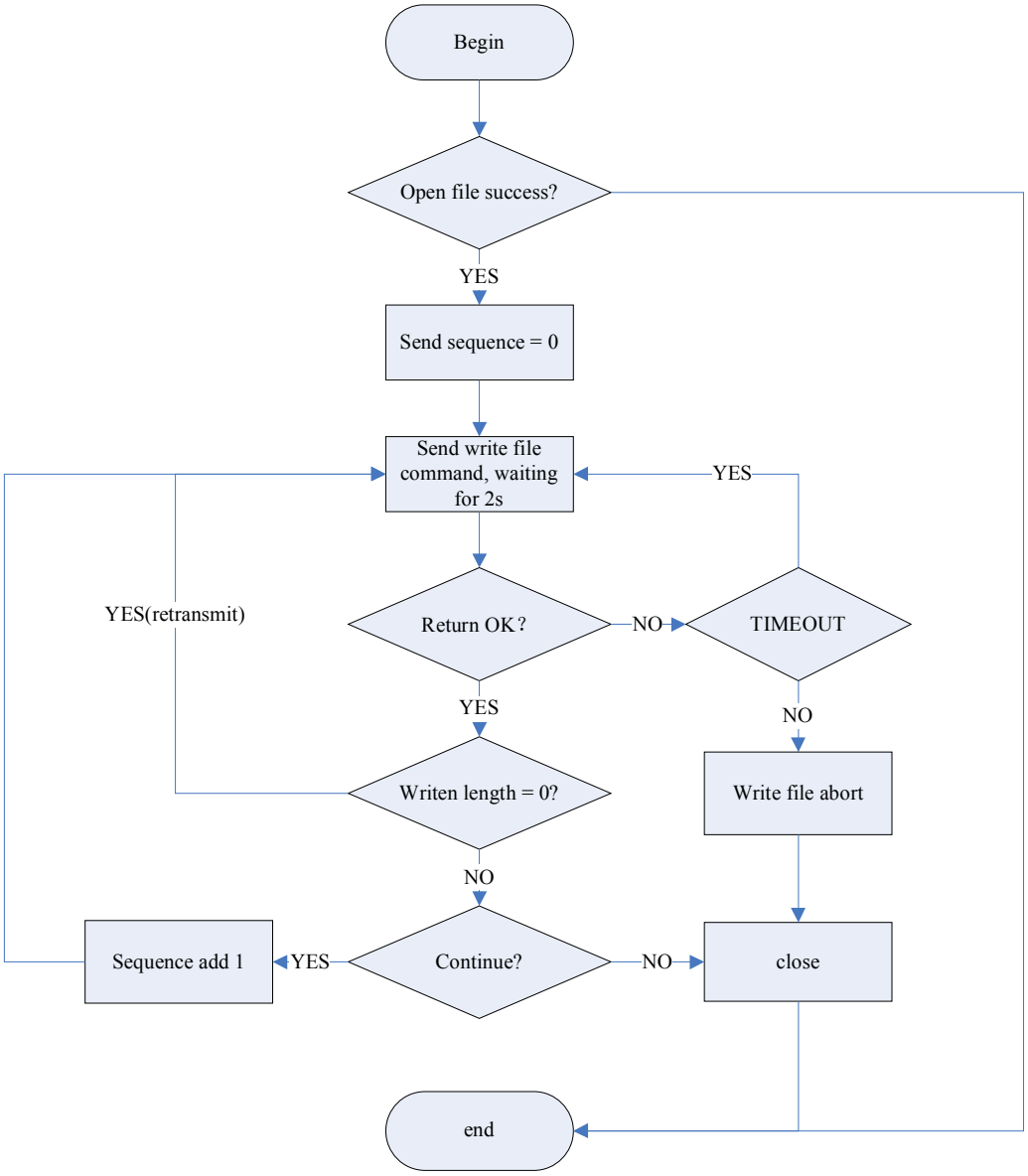



Figure 6-3 using AT command to write to file

# Chapter 7 DeviceManagement

NEPORT series product's DeviceManagement is an excellent device server management tool on PC. You can search and configure the remote NEPORT serial device servers easily. With this utility, you can:

Search all the devices on the local network.

Configure and view devices' settings.

Perform diagnostic tests (with Ping, IE, Telnet).

This management utility window is divided into 4 parts (show in 2.2.2.4):

The main menu contains the function list and information of this utility.

The shortcuts field of function is just below the main menu, you can access the functions more convenient than from the main menu.

The devices list view is on the left part below shortcuts field, it shows brief information of devices, and you must select item from it to operate.

## 7.1 Functions

### 7.1.1 Menu Items

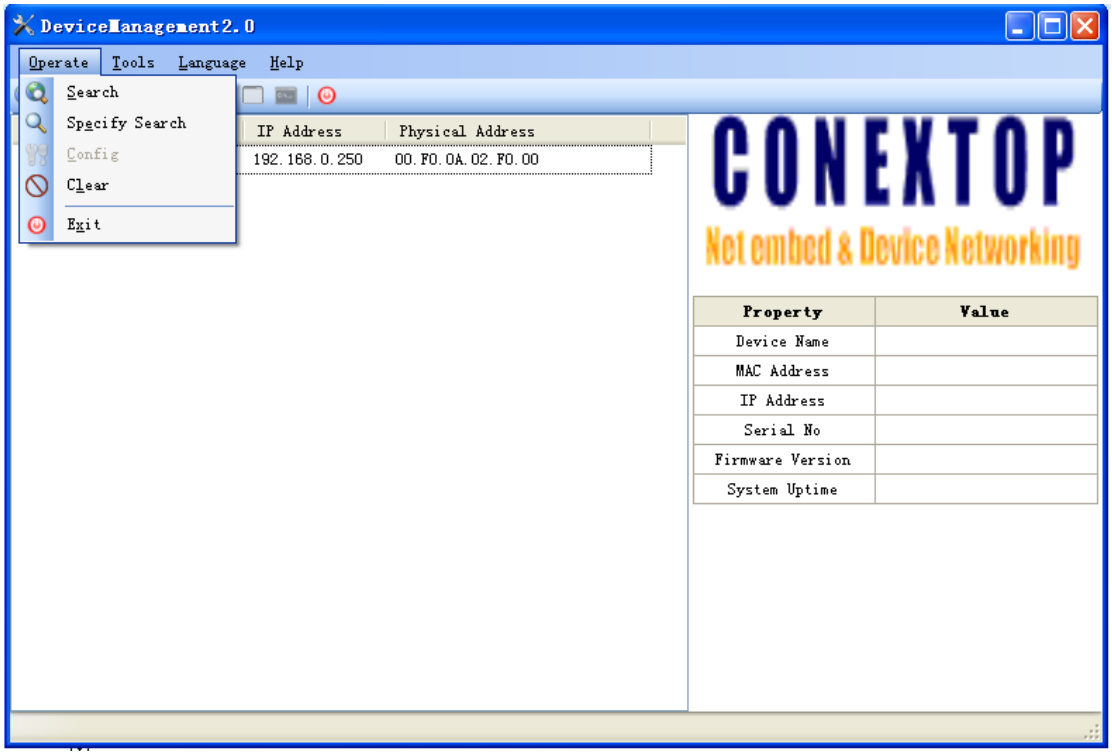



图 7-1 main menu of Devicemanagement

#### 7.1.1.1 Operate

| Menu item | Description |
|---|---|
| Search | Search all the devices in the same LAN, add to list view when found a device. |
| Specify Search | Search for a specified device according to IP address. |
| Config | Query or set configuration of device. |
| Clear | Delete all items from the list view control. |
| Exit | Quit |

Table 7-1 basic operation of Devicemanagement

#### 7.1.1.2 Tools

| Menu item | Description |
|---|---|
| IE | Start Internet Explorer to visit the WEB pages of a device selected from the list view. |
| Telnet | Use Telnet to log in device selected from the list view. |
| Ping | Ping the device selected from the list view. |
| Shortcut Key | Set the shortcut key of operations. |

Table 7-2 tools of DeviceManagement

#### 7.1.1.3 Language

| Menu item | Description |
|---|---|
| English | Select English as the language of software interface. |
| Chinese-Simplified | Select Chinese-Simplified as the language of software interface. |
| Chinese-Traditional | Select Chinese-Traditional as the language of software interface. |

Table 7-3 language of DeviceManagement

#### 7.1.1.4 Help

| Menu item | Description |
|---|---|
| About | About the software. |
| Update | Update software. |

Table 7-4 Help menu of DeviceManagement

## 7.1.2 Shortcuts Field

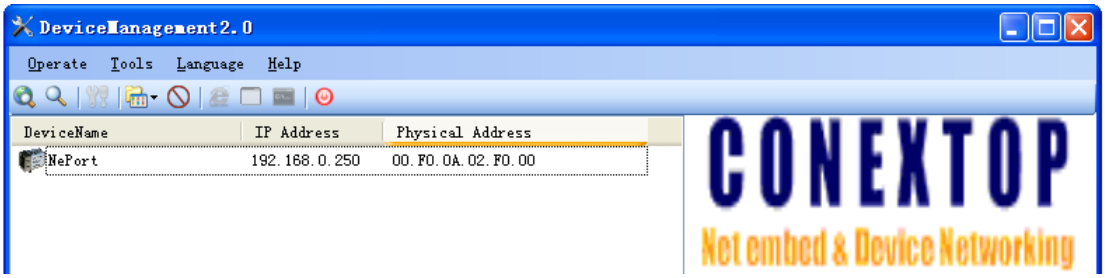



Figure 7-2 shortcuts field of DeviceManagement

The shortcuts field is consist of Icons, every Icon stands for a shortcut of a menu item. You can simple click on the Icon instead of clicking on the menu item.

## 7.1.3 Devices List View

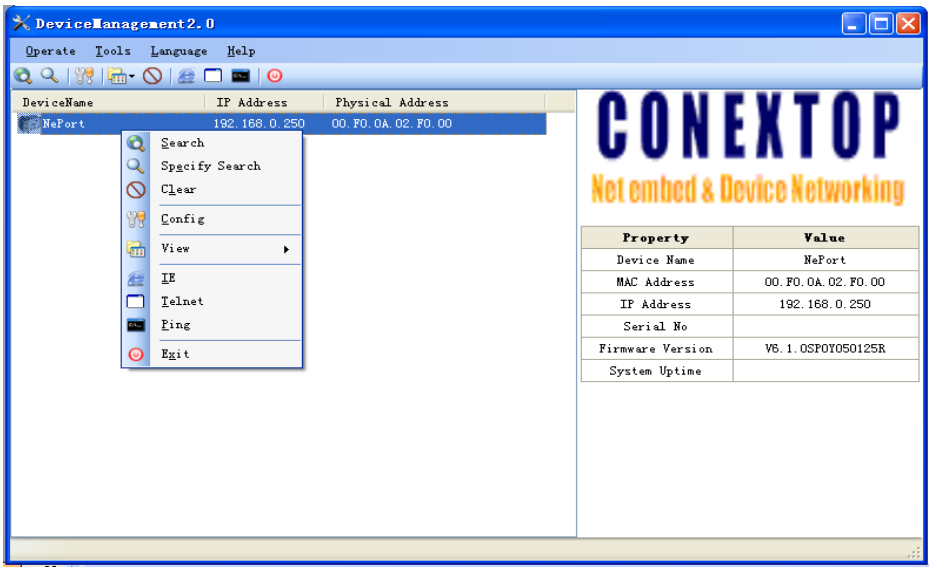



Figure 7-3 device list view of DeviceManagement

Every item in the list view stands for a device in the LAN. It shows the name, IP address, physical address of the device to distinguish each other.

When an item is selected, it will be highlighted. You can operate it by menu items, or by shortcuts, or click the right button of mouse then select from the context menu. The content of context menu is the same as the main menu. The details of the menu items is descript in section 7.1.1.

---

Caution:

The IP address and physical address are the features of devices, must different with others, if there is two devices have the same features, unknown problems will occur.

---

# 7.2 Configuring Devices

Except WEB and TELNET, you can use the Config function of this software to configure the device.

You can execute this function through main menu or context menu, or shortcut of Config, or shortcut key of Config, or just double click on the device item.

## 7.2.1 Login

Before you can configure the device, maybe you will be prompted to fill use name and password for login as follows:

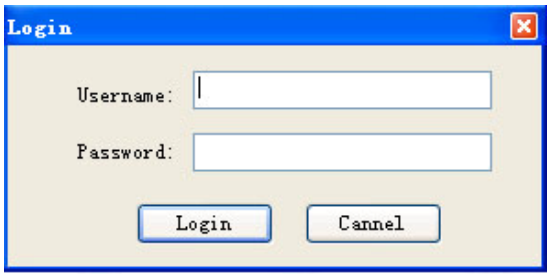
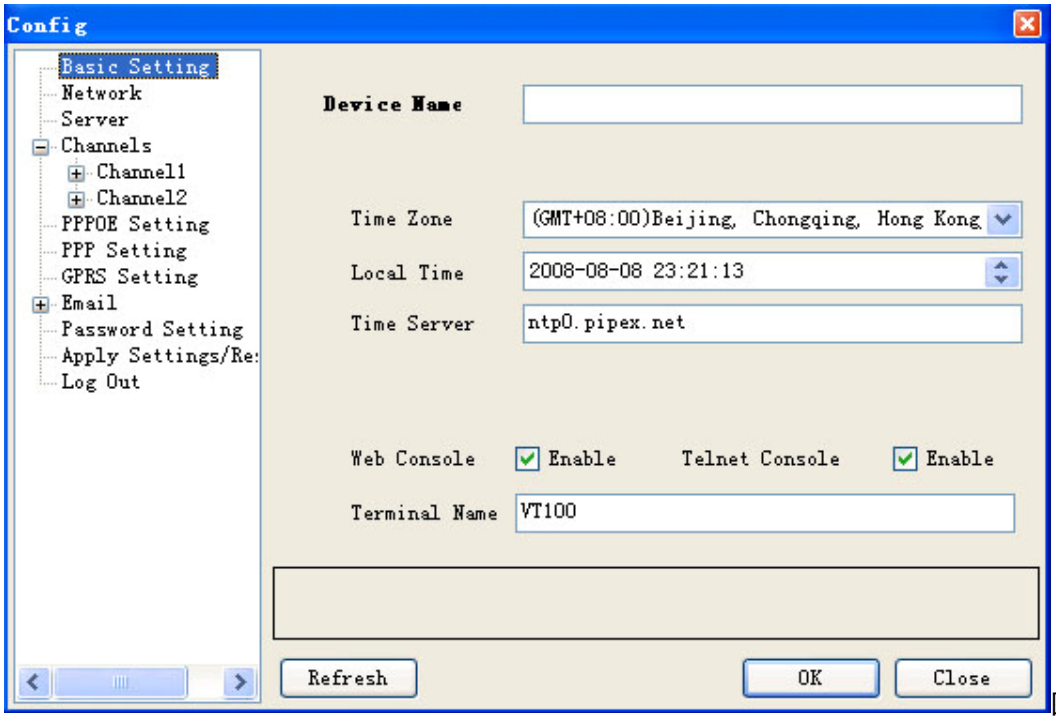



图 7-4 login window of DeviceManagement

Fill in with correct user name and password, and then click the Login button to verify.

## 7.2.2 Configure

If verification is successful, the configuration page is show as follow.




图

7-5 configuration window of DeviceManagement

The content of configuration page is the same as the WEB page, except some different in layouts and buttons, in the left index column you can click the + to unfold the sub menus, click the – to fold the sub menus. The operation of configuration is also the same as the WEB pages, moreover, you can click the Refresh button to re-retrieve the configuration of device, click the Close button to exit from configuration.

**NePort Summary**

| **Embedded Seial-IP series** | | **NePort –L Series** | | **NePort-R Series** | | **NePort Series** | | **NePort-EN Series** | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Single port series | | LX | LX -485 | RX | RX -485 | SX | SX -485 | EXH | EXH -485 | ESX |
| Memory and Speed | Flash Code/Boot(KB) | 128k /32 | 128k /32 | 256k /32 | 256k /32 | 512k /32 | 512k /32 | 512k /32 | 512k /32 | 512k /32 |
| | SRAM(KB) | 80/128 | 80/128 | 128 | 128 | 256 | 256 | 256 | 256 | 256 |
| | Speed (MIPS) | 55 | 55 | 55 | 55 | 55 | 55 | 60 | 60 | 60 |
| Core and System | ARM7TDMI | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Multi-T RTOS | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Serial Interfaces | Ethernet Speed (M) | 10/100 | 10/100 | 10/100 | 10/100 | 10/100 | 10/100 | 10/100 | 10/100 | 10/100 |
| | Uart RS232 | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Uart RS485/422 | | Y | | Y | | Y | | Y | Y |
| | Max-Baudrate(bps) | 115200 | 115200 | 460800 | 460800 | 460800 | 460800 | 921600 | 921600 | 921600 |
| | Serial port Number | 1 | 1 | 1 | 1 | 1 | 1 | 1/2/3 | 1/2/3 | 1/2/3 |
| Programmable I/O | PIO Number | -- | 2 | -- | 2 | -- | -- | -- | 2 | 2 |
| Protocol stacks | ARP/IP/ICMP/DHCP /BOOTP/TCP/UDP | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | TFTP | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | SNTP | -- | -- | -- | -- | Y | Y | -- | Y | Y |
| | Http Server (web customized) | | --Y | Y | Y | Y | Y | Y | Y | Y |
| | Telnet Server | Y(*) | Y(*) | Y | Y | Y | Y | Y | Y | Y |
| | DNS | Y(*) | Y(*) | Y(*) | Y(*) | Y | Y | Y | Y | Y |
| | Smtp (Email Trigger) | -- | -- | -- | -- | Y(*) | Y(*) | -- | Y | Y |
| | PPP/PPPOE | -- | -- | -- | -- | -- | Y(*) | -- | -- | Y |
| Advanced encryption protocols | SSH | -- | -- | -- | -- | -- | -- | -- | -- | Y |
| | SSL/TLS | -- | -- | -- | -- | -- | -- | -- | -- | Y |
| | Https | -- | -- | -- | -- | -- | -- | -- | -- | Y |
| | Smtps | -- | -- | -- | -- | -- | -- | -- | -- | Y |
| Encryption Arithmetic | AES | -- | -- | -- | -- | -- | -- | -- | -- | Y |
| | DES/Triple-DES | -- | -- | -- | -- | -- | -- | -- | -- | Y |
| | RC4 | -- | -- | -- | -- | -- | -- | -- | -- | Y |
| | MD5 | -- | -- | -- | -- | -- | -- | -- | -- | Y |
| Analog parameters | Power suppler(V) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| | I/O Tolerant(V) | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| PowerConsumption (mA) | 10Base-T Activity | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 |
| | 100Base-T Activity | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 |
| Operating temperature arrange C = 0 - +75° C I = - 40 - +85° C | | C,I | C,I | C,I | C,I | C,I | C,I | C,I | C,I | C,I |
| Package Option (RJ45) | | RJ45 Low Cost | RJ45 Low Cost | RJ45 | RJ45 | RJ45 | RJ45 | RJ45 | RJ45 | RJ45 |

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